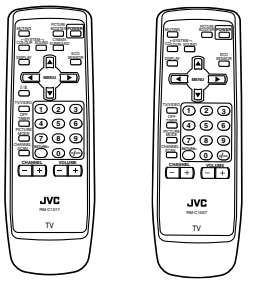
JVC

SERVICE MANUAL

COLOUR TELEVISION

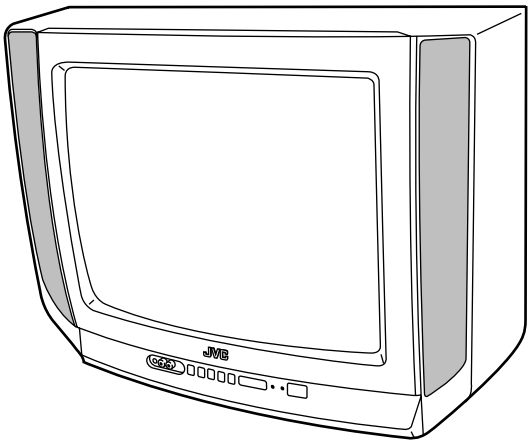
BASIC CHASSIS
CH

AV-20N83 /BK AV-21D83 /VT
AV-21D83 /BK AV-20N83 /VT

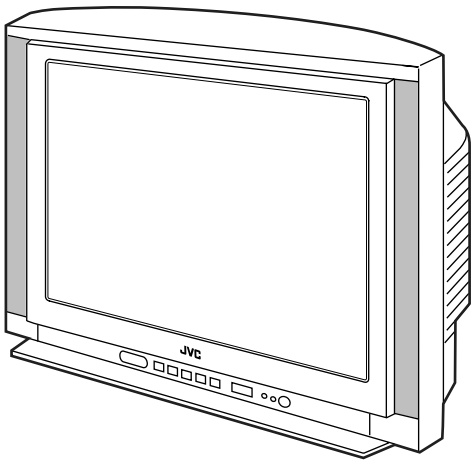


RM-C1017-1H
[AV-20N83/BK]
[AV-21D83/BK]

RM-C1027-1H
[AV-21D83/VT]
[AV-20N83/VT]



[AV-20N83/BK, AV-20N83/VT]



[AV-21D83/BK, AV-21D83/VT]

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No. 52076
Dec. 2002

SPECIFICATIONS

Items		Contents			
		AV-20N83/BK	**AV-21D83/BK**	**AV-21D83/VT**	**AV-20N83/VT**
Dimensions (W × H × D)		61.9cm × 45.8cm × 48.8cm	59.8cm × 46.8cm × 47.8cm		61.9cm × 45.8cm × 48.8cm
Mass		19kg	21kg		18kg
TV RF System		B, G		B, G, D, K, K1, M	
Colour System	TV Mode	PAL / SECAM		PAL / SECAM / NTSC3.58 / NTSC4.43	
	VIDEO Mode	PAL / SECAM / NTSC3.58 / NTSC4.43			
Stereo System		Playback only			
Receiving Frequency	VHF (VL)	46.25MHz – 140.25MHz (AU0 – S6)		46.25MHz – 168.25MHz (AS0 – S6)	
	VHF (VH)	147.25MHz – 423.25MHz (S7 – S36)		175.25MHz – 463.25MHz (S7 – S36)	
	UHF	431.25MHz – 863.25MHz (S37 – CHINA 57)		471.25MHz – 863.25MHz (S37 – CHINA 57)	
	CATV	● Cable TVs of Mid (X-Z, S1-S10) Super (S11-S20) & Hyper (S21-S41) bands receivable			
Intermediate Frequency	VIF Carrier	38.0MHz			
	SIF Carrier	32.5MHz (5.5MHz)		31.5MHz (6.5MHz) 32.5MHz (5.5MHz) 33.5MHz (4.5MHz)	
Colour Sub Carrier Frequency	PAL SECAM NTSC	4.43MHz 4.40625MHz / 4.25MHz 3.58MHz / 4.43MHz			
Aerial Input Terminal		75Ω Unbalanced, coaxial			
Power Input		AC110V – AC240V, 50Hz / 60Hz			
Power Consumption		95W (Max.) / 65W (Avg.)			
Picture Tube		Visible size : 48cm measured diagonally	Visible size : 51cm measured diagonally		Visible size : 48cm measured diagonally
High Voltage		26.5kV ± 1.5kV (at cut-off in service mode)			
Speaker		5cm X 12cm Oval type x 2			
Audio Output		5W + 5W			
Video / Audio Input (1 / 2 / 3)	Video (1 / 3) Audio (1 / 2 / 3) Component Input (Input 2)	1V(p-p), 75Ω, RCA pin jack x 2 500mV(rms)(-4dBs), High impedance, RCA pin jack x 6 Y : 1V(p-p), positive (negative sync provided), 75Ω, RCA pin jack x 1 C_B/C_R : 0.7V(p-p), 75Ω, RCA pin jack x 2			
Video / Audio Output	VIDEO AUDIO	1V(p-p), 75Ω, RCA pin jack x 1 500mV(rms)(-4dBs), Low impedance (400Hz when modulated 100%), RCA pin jack x 2			
Headphone Jack		Stereo mini jack (ϕ3.5mm)			
Remote Control Unit		RM-C1017-1H		RM-C1027-1H	
		(Battery size: AA/R06/UM-3 × 2)			

Design & specifications are subject to change without notice.

SAFETY PRECAUTIONS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.

2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.

3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (⚠) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.

4. **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**
   Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED (NEUTRAL) : (⏚) side GND and EARTH : (⏚) side GND. Don't short between the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND and never measure the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND at the same time with a measuring apparatus (oscilloscope etc.).
   If above note will not be kept, a fuse or any parts will be broken.

5. If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).

6. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.

7. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.

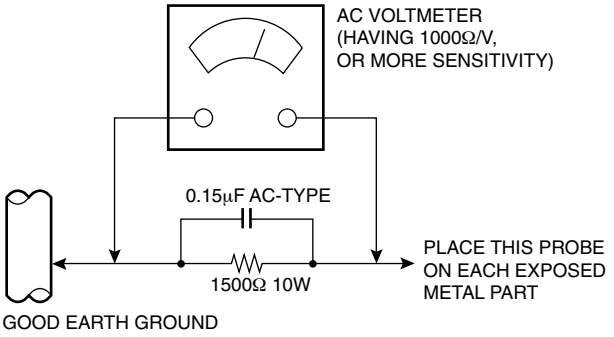
8. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

9. **Isolation Check**
   (Safety for Electrical Shock Hazard)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screw heads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

(1) **Dielectric Strength Test**
The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second.
(. . . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)
This method of test requires a test equipment not generally found in the service trade.

(2) **Leakage Current Check**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

● **Alternate Check Method**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



FEATURES

- New chassis design enables use of an interactive on-screen control.
- Pure flat CRT produces fine textured picture in every detail.
- Wide range voltage (110V ~ 240V) for AC power input.
- With AUDIO/VIDEO/COMPONENT input terminals.
- I ² C bus control utilizes single chip ICs.
- By means of AUTO PROGRAM, the TV stations can be selected automatically and the TV channels can also be rearranged automatically.
- Built-in DIGITAL ECO MODE (ECONOMY, ECOLOGY).
  In accordance with the brightness in a room, the brightness and/or contrast of the picture can be adjusted automatically to make the optimum picture which is easy on the eye.
- Built-in OFF TIMER & RETURN +.

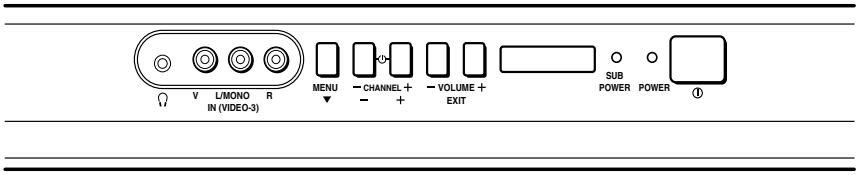
MAIN DIFFERENCE LIST

⚠	MODEL No. / Part Name	AV-20N83/BK	AV-21D83/BK	AV-21D83/VT	AV-20N83/VT
⚠	MAIN PWB	SCH-1090A-BK	SCH-1122A-BK	SCH-1315A-CK	SCH-1316A-CK
	FRONT CABINET	LC10438-028A-H	LC11129-024A-H	LC11129-025A-HK	LC10438-034A-HK
⚠	REAR COVER	GG10448-005A-H	GG10130-001A-H	LC10130-011A-HK	LC10448-005A-HK
⚠	PICTURE TUBE	A48LWX10X	A51LMV10X	A51JSW51X07	A48JLL91X01
⚠	DEG COIL	QQW0156-001	QQW0157-001	←	QQW0156-001
⚠	RATING LABEL	GG20029-001A-H	←	GG20016-025A-E	GG20016-024A-E
	REMOTE CONTROL UNIT	RM-C1017-1H	←	RM-C1027-1H	←

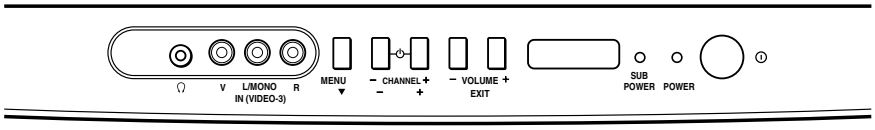
FUNCTIONS

■ FRONT PANEL

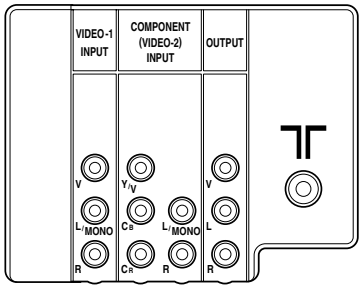
[AV-20N83/BK, AV-20N83/VT]



[AV-21D83/BK, AV-21D83/VT]

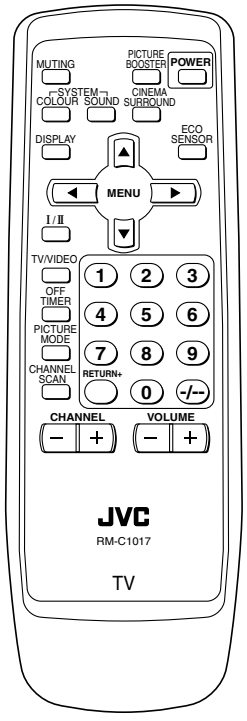


■ REAR PANEL

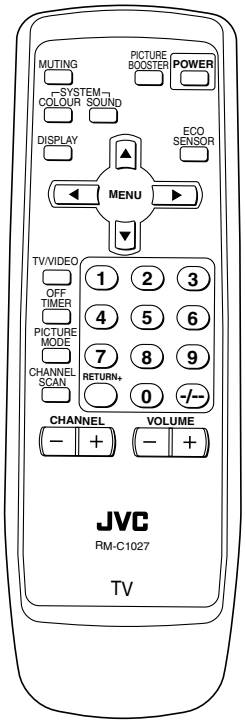


■ REMOTE CONTROL UNIT

RM-C1017-1H
[AV-20N83/BK, AV-21D83/BK]



RM-C1027-1H
[AV-21D83/VT, AV-20N83/VT]



SPECIFIC SERVICE INSTRUCTIONS

DISASSEMBLY PROCEDURE [AV-20N83/BK, AV-20N83/VT]

REMOVING THE REAR COVER

1. Unplug the power supply cord.
2. Remove the 6 screws marked Ⓐ and 4 screws marked Ⓑ as shown in Fig.1.
3. Withdraw the Rear cover toward you.

[CAUTION]

- When reinstalling the rear cover, carefully push it inward after inserting the Main PWB into the rear cover groove.

REMOVING THE MAIN PW BOARD

- After removing the rear cover.

1. Slightly raise the both sides of the Main PWB by hand, take off the PB Stopper marked Ⓒ from the front cabinet.
2. Withdraw the Main PWB backward.
   (If necessary, take off the wire clamp and connectors, etc.)

REMOVING THE SPEAKER [AV-20N83/BK]

- After removing the rear cover.

1. Remove the 2 screws marked Ⓓ and 2 screws marked Ⓔ as shown in Fig.1.
2. Follow the same steps when removing the other hand speaker.

REMOVING THE SPEAKER [AV-20N83/VT]

- After removing the rear cover.

1. Remove the 2 screws marked Ⓓ as shown in Fig.1.
2. Follow the same steps when removing the other hand speaker.

CHECKING THE MAIN PW BOARD

1. To check the back side of the Main PWB.
   1) Pull out the Main PWB. (Refer to REMOVING THE MAIN PW BOARD).
   2) Erect the Main PWB vertically so that you can easily check its back side.

[CAUTION]

- Before turning on power, make sure that the CRT earth wire and other connectors are properly connected.
- When repairing, connect the Deg. coil to the DEG. connector on the Main PWB.

WIRE CLAMPING AND CABLE TYING

1. Be sure to clamp the wire.
2. Never remove the cable tie used for tying the wires together.
   Should it be inadvertently removed, be sure to tie the wires with a new cable tie.

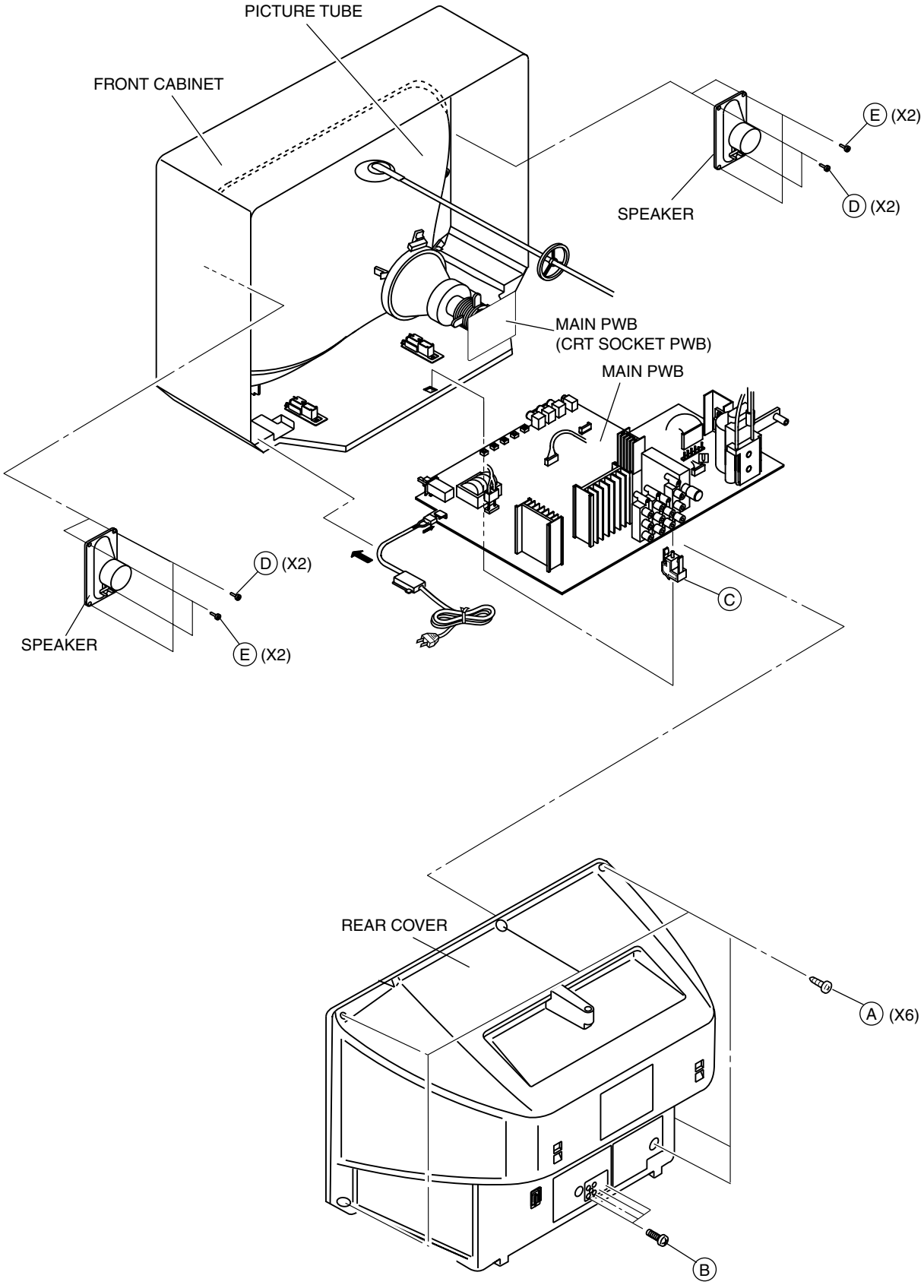

PICTURE TUBE
FRONT CABINET
E (X2)
D (X2)
SPEAKER
MAIN PWB
(CRT SOCKET PWB)
MAIN PWB
D (X2)
SPEAKER
E (X2)
C
REAR COVER
A (X6)
B

Fig.1

DISASSEMBLY PROCEDURE [AV-21D83/BK, AV-21D83/VT]

REMOVING THE REAR COVER

1. Unplug the power supply cord.
2. Remove the 7 screws marked Ⓐ and 4 screws marked Ⓑ as shown in Fig.1.
3. Withdraw the Rear cover toward you.

[CAUTION]

- When reinstalling the rear cover, carefully push it inward after inserting the Main PWB into the rear cover groove.

REMOVING THE MAIN PW BOARD

- After removing the rear cover.

1. Slightly raise the both sides of the Main PWB by hand, take off the PB Stopper marked Ⓒ from the front cabinet.
2. Withdraw the Main PWB backward.
   (If necessary, take off the wire clamp and connectors, etc.)

REMOVING THE SPEAKER [AV-21D83/BK]

- After removing the rear cover.

1. Remove the 2 screws marked Ⓓ as shown in Fig.1.
2. Follow the same steps when removing the other hand speaker.

REMOVING THE SPEAKER [AV-21D83/VT]

- After removing the rear cover.

1. Remove the 2 screws marked Ⓓ and 2 screws marked Ⓔ as shown in Fig.1.
2. Follow the same steps when removing the other hand speaker.

CHECKING THE MAIN PW BOARD

1. To check the back side of the Main PWB.
   1) Pull out the Main PWB. (Refer to REMOVING THE MAIN PW BOARD).
   2) Erect the Main PWB vertically so that you can easily check its back side.

[CAUTION]

- Before turning on power, make sure that the CRT earth wire and other connectors are properly connected.
- When repairing, connect the Deg. coil to the DEG. connector on the Main PWB.

WIRE CLAMPING AND CABLE TYING

1. Be sure to clamp the wire.
2. Never remove the cable tie used for tying the wires together.
   Should it be inadvertently removed, be sure to tie the wires with a new cable tie.

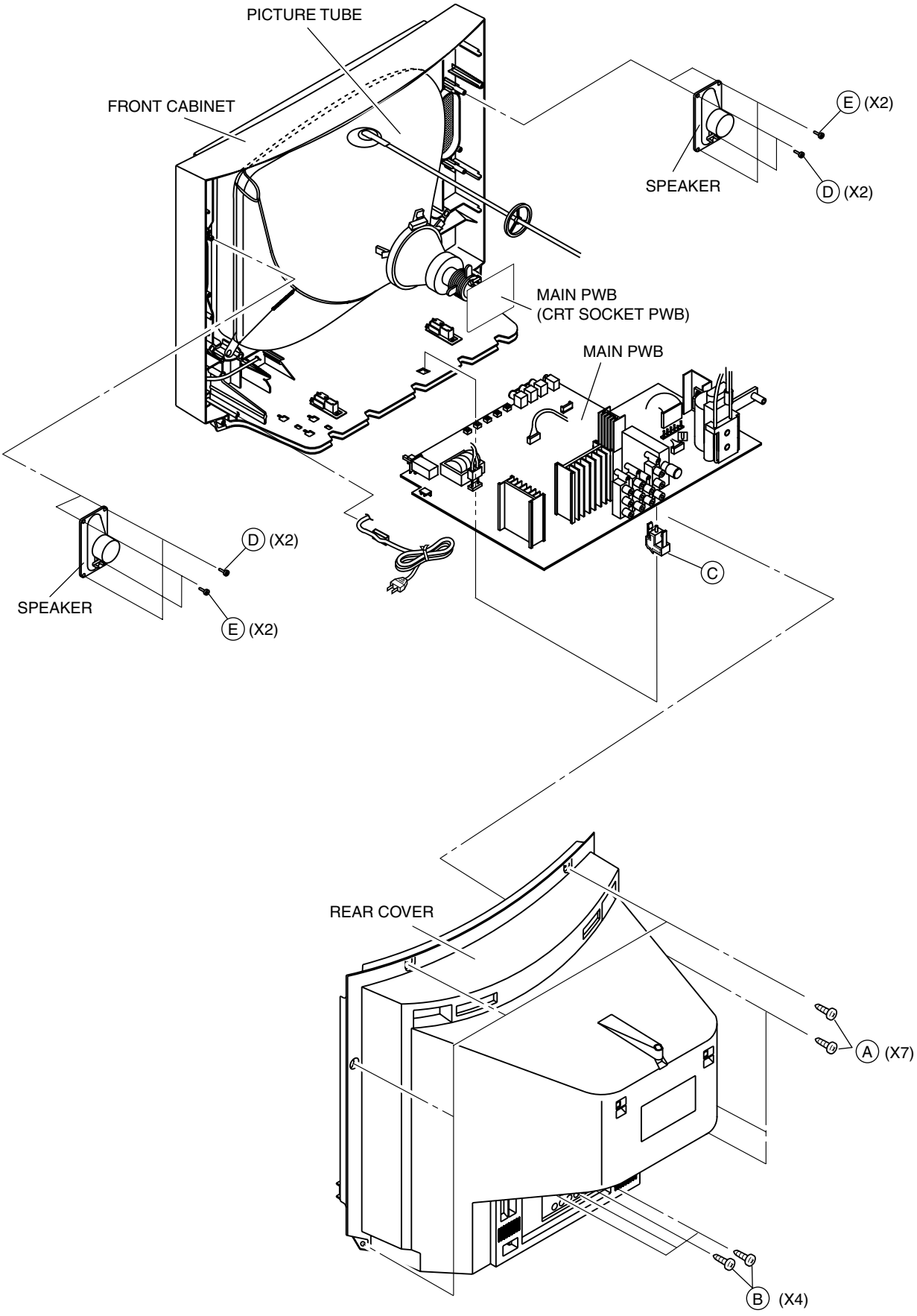

PICTURE TUBE
FRONT CABINET
E (X2)
SPEAKER
D (X2)
MAIN PWB
(CRT SOCKET PWB)
MAIN PWB
D (X2)
SPEAKER
E (X2)
C
REAR COVER
A (X7)
B (X4)

Fig.1

REMOVING THE CRT

* Replacement of the CRT should be performed by 2 or more persons.

● After removing the rear cover, chassis etc.,

1. Putting the CRT change table on soft cloth, the CRT change table should also be covered with such soft cloth (shown in Fig. 2).
2. While keeping the surface of CRT down, mount the TV set on the CRT change table balanced will as shown in Fig. 3.
3. Remove 4 screws marked by arrows with a box type screwdriver as shown in Fig. 3.

● Since the cabinet will drop when screws have been removed, be sure to support the cabinet with hands.

4. After 4 screws have been removed, put the cabinet slowly on cloth (At this time, be carefully so as not to damage the front surface of the cabinet) shown in Fig. 4.

● The CRT should be assembled according to the opposite sequence of its dismounting steps.

* The CRT change table should preferably be smaller that the CRT surface, and its height be about 35cm.

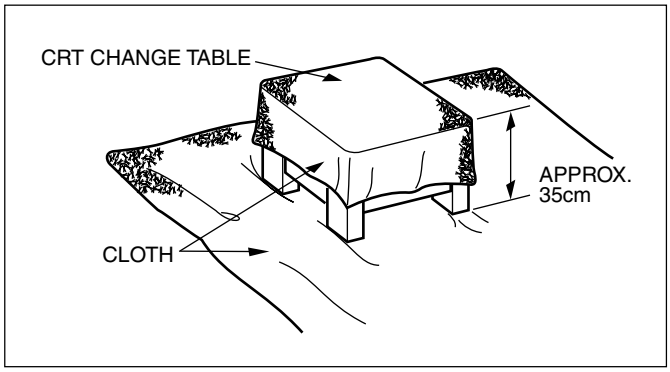


Fig. 2

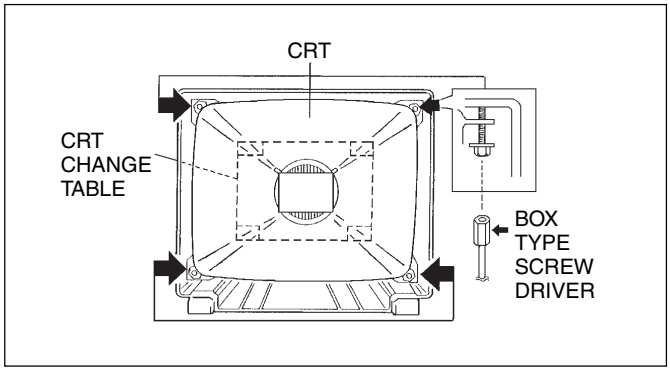


Fig. 3

COATING OF SILICON GREASE FOR ELECTRICAL INSULATION ON THE CRT ANODE CAP SECTION.

● Subsequent to replacement of the CRT and HV transformer or repair of the anode cap, etc. by dismounting them, be sure to coat silicon grease for electrical insulation as shown in Fig. 5.

1. Wipe around the anode button with clean and dry cloth. (Fig. 5)
2. Coat silicon grease on the section around the anode button. At this time, take care so that any silicon greases does not sticks to the anode button. (Fig. 6)

★ **Silicon grease product No. KS - 650N**

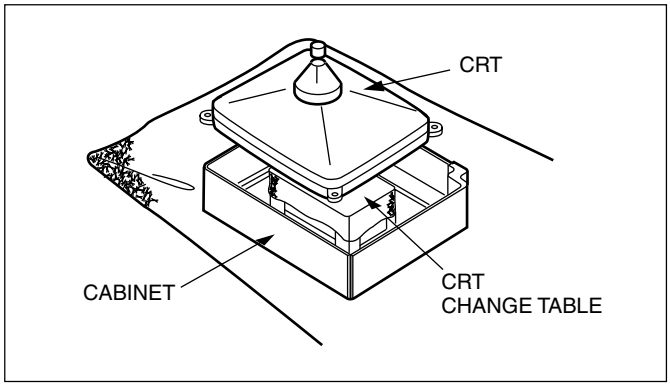


Fig. 4

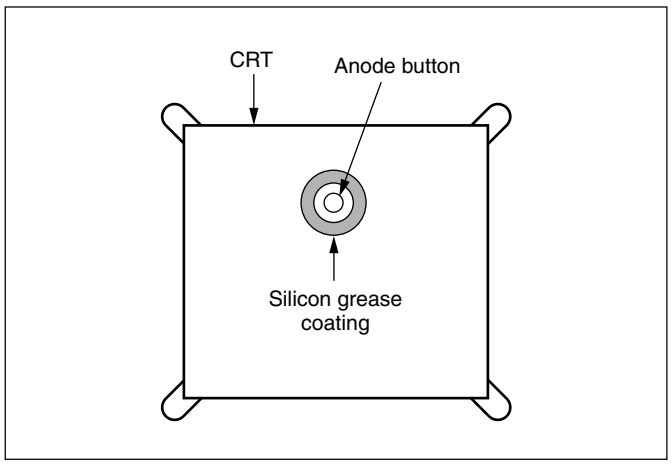


Fig. 5

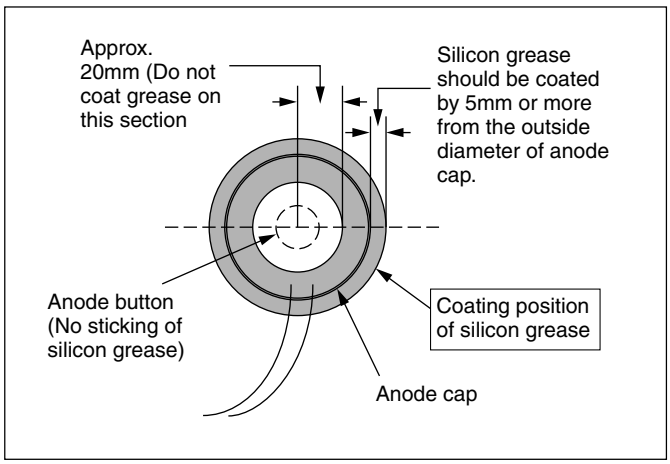


Fig. 6

REPLACEMENT OF MEMORY IC

1. MEMORY IC

This TV uses the following memory IC.

Memory IC: IC1702 on MAIN PW Board

The memory IC memorizes data for correctly operating the video and deflection circuits. When replacing the memory IC, be sure to use the same type IC written with the initial values of data. In other words, use the specific IC listed in "PRINTED WIRING BOARD PARTS LIST". For its mounting location, refer to "ADJUSTMENT LOCATIONS".

2. PROCEDURE FOR REPLACING MEMORY IC

(1) Power off

Switch the power off and unplug the power cord from the wall outlet.

(2) Replacing the memory IC

Replace the memory IC with new one. Be sure to use the memory IC written with the initial data values.

(3) Power on

Plug the power cord into the wall outlet and switch the power on.

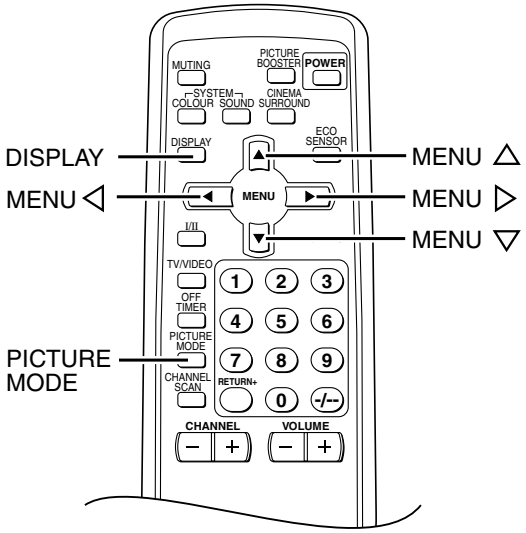
(4) Check and setting of SYSTEM CONSTANT SET:

1) Press the DISPLAY key and the PICTURE MODE key on the remote control unit simultaneously.
   The SERVICE MENU screen will be displayed.(See Fig.1.)
2) In the SERVICE MENU, press the DISPLAY key and PICTURE MODE key simultaneously. Then, the SYSTEM CONSTANT SET screen will be displayed.(See Fig.2.)
3) Check whether the setting values of the SYSTEM CONSTANT SET are the same as those indicated in Table1.
   If the value is different, select the setting item with the MENU ▽/△ key, and set the correct value with the MENU ◁/▷ key.
4) Press the DISPLAY key twice to return to the normal screen.

(5) Receive channel setting

Refer to the **OPERATING INSTRUCTIONS** and set the receive channels (channels preset).

NAME OF REMOTE CONTROL KEYS



(6) User setting

Check the user setting values in Table 2, and if setting value is different, set the correct value.
For setting, refer to the **OPERATING INSTRUCTIONS**.

(7) Setting of SERVICE MENU

Verify the setting for each setting item in the SERVICE MENU.(See Table 3.) If readjustment is necessary, perform adjustment referring to "SERVICE ADJUSTMENTS".

SERVICE MENU

```
SERVICE MENU

1. IF              2. VC
3. DEF             4. VSM PRESET
5. PRESET
6. PLUG & PLAY (ON)
1-6 : SELECT       DISPLAY : EXIT

******* **** ***** *****
**** **** *** ***
```

Fig. 1

SYSTEM CONSTANT-Ⅰ

```
SYSTEM CONSTANT  SET 1

SYSTEM              MULTI
COMB                NO
TILT                NO
TEXT                NO
SUPER BASS          NO
LANGUAGE            E/R/C/M/I

△▽ : SEL  −+ : OPE  DISP : EXIT
```

SYSTEM CONSTANT-Ⅱ

```
SYSTEM CONSTANT  SET 2

MSP                 YES
BILINGUAL           NO
B / B SOUND         NO
TUNER               MU
COLOUR AUTO         NO

△▽ : SEL  −+ : OPE  DISP : EXIT
```

SYSTEM CONSTANT-Ⅲ

```
SYSTEM CONSTANT  SET 3

LOCK          1 MHz   : 040
            500 KHz   : 040
            250 KHz   : 040
          156. 25 KHz : 030
           31.25 KHz  : 030

△▽ : SEL  −+ : OPE  DISP : EXIT
```

SYSTEM CONSTANT-Ⅳ

```
SYSTEM CONSTANT  SET 4

3D SURROUND         NO
3CH VOL/TONE        NO
AMP TUNER           NO

△▽ : SEL  −+ : OPE  DISP : EXIT
```

Fig. 2

SETTING OF SYSTEM CONSTANT SET

Setting item	Setting content	Setting value			
		AV-20N83/BK	AV-21D83/BK	AV-21D83/VT	AV-20N83/VT
SYSTEM	MULTI → TRIPLE → PAL → SINGLE → VIET	SINGLE	←	VIET	←
COMB	YES → NO	NO	←	←	←
TILT	YES → NO	NO	←	←	←
TEXT	EASTERN → UKRANIAN → RUSSIAN → NO ← PAN EURO ← ARABK	NO	←	←	←
SUPER BASS	YES → NO	NO	←	←	←
LANGUAGE	E/ T → E/V → E	E/T	←	E/V	←
MSP	YES → NO	NO	←	←	←
BILINGUAL	YES → NO	YES	←	NO	←
B/B SOUND	YES → NO	NO	←	←	←
TUNER	MU → MA	MU	←	←	←
COLOUR AUTO	YES → NO	NO	←	←	←
LOCK 1MHz	000 → 240	040	←	←	←
500KHz	000 → 240	040	←	←	←
250KHz	000 → 240	040	←	←	←
156.25KHz	000 → 240	030	←	←	←
31.25KHz	000 → 240	030	←	←	←
3D SURROUND	YES → NO	YES	←	NO	←
3CH VOL/TONE	YES → NO	NO	←	←	←
AMP TUNER	YES → NO	YES	←	←	←

Table 1

USER SETTING VALUES

Setting item	Setting value
SUB POWER	ON
CHANNEL POSITION	1 POSITION
CHANNEL PRESET	REFER TO OPERATING INSTRUCTIONS
VOLUME	15 ± 2
TV/VIDEO	TV
VNR	OFF
COMPRESS (16:9)	OFF
AUTO SHUTOFF	OFF
CHILD LOCK	OFF
BLUE BACK	ON
VIDEO-2 SET	VIDEO
LANGUAGE	THAI [AV-20N83/BK, AV-21D83/BK only]
	VIET [AV-21D83/VT, AV-20N83/VT only]
3D SURROUND	OFF
AI VOLUME	ON
ON SCREEN DISPLAY	POSITION INDICATION
COLOUR SYSTEM	PAL
SOUND SYSTEM	B/G
PICTURE MODE-VSM	BRIGHT
OFF TIMER	00
ECO SENSOR	OFF
BASS	CENTRE
TREBLE	CENTRE
BALANCE	CENTRE
BILINGUAL MODE	I/II [AV-20N83/BK, AV-21D83/BK only]

Table 2

SERVICE MENU SETTING ITEMS

Service menu	Setting item
1. IF	1. VCO 2. DELAY POINT
2. VC	1. CUTOFF(R/G) 2. DRIVE(R/G/B) 3. BRIGHT 4. CONT 5. COLOUR 6. TINT 7. SHARP 8. YDELAY 9. AMP T. SHARP **Do not adjust**
3. DEF	1. VER. SLOPE 2. VER. HEIGHT 3. VER. POSITION 4. VER. SCURVE 5. HOR. POSITION 6. HOR. WIDTH 7. EW-PIN 8. EW-TRAPEZ 9. UP CORNER 10. DW CORNER 11. HOR. PARALL 12. HOR. BOW 13. V. ZOOM
4. VSM PRESET **(BRIGHT/STD/SOFT)** **Do not adjust**	1. TINT 2. COLOUR 3. BRIGHT 4. CONT 5. SHARP
5. PRESET **Do not adjust**	1. PSNS 2. ACL 3. MUS 4. MAT 5. FCO 6. BPS 7. IFLH 8. VID 9. STM 10. AFCW 11. VSW 12. FFI 13. AGC 14. CL 15. AKB 16. HBL 17. BKS 18. READ STATUS 19. VNR 20. PEAK 21. IVG 22. WPL 23. SOFT CLIPPER 24. IF PLL OFFSET 25. OVERSHOOT 26. HCO 27. HP2 28. AI VOLUME ADN 29. SUB BASS 3D 30. SUB TREBLE 3D 31. CCCLOOP
6. PLUG & PLAY(ON) **Do not adjust**	

Table 3

REPLACEMENT OF CHIP COMPONENT

■ CAUTIONS

1. Avoid heating for more than 3 seconds.
2. Do not rub the electrodes and the resist parts of the pattern.
3. When removing a chip part, melt the solder adequately.
4. Do not reuse a chip part after removing it.

■ SOLDERING IRON

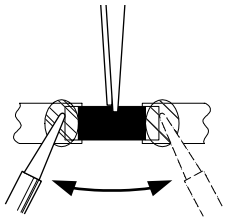
1. Use a high insulation soldering iron with a thin pointed end of it.
2. A 30w soldering iron is recommended for easily removing parts.

■ REPLACEMENT STEPS

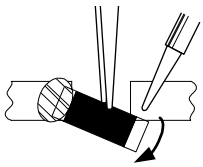
1. How to remove Chip parts

◆ **Resistors, capacitors, etc.**

(1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.

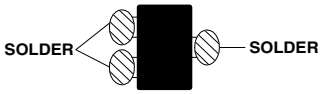


(2) Shift with tweezers and remove the chip part.

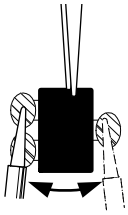


◆ **Transistors, diodes, variable resistors, etc.**

(1) Apply extra solder to each lead.



(2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.

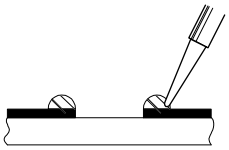


Note : After removing the part, remove remaining solder from the pattern.

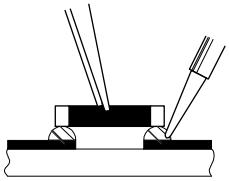
2. How to install Chip parts

◆ **Resistors, capacitors, etc.**

(1) Apply solder to the pattern as indicated in the figure.



(2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

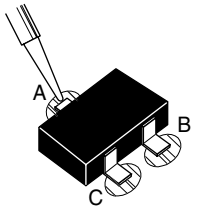


◆ **Transistors, diodes, variable resistors, etc.**

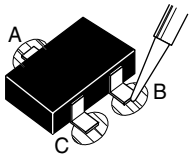
(1) Apply solder to the pattern as indicated in the figure.

(2) Grasp the chip part with tweezers and place it on the solder.

(3) First solder lead **A** as indicated in the figure.



(4) Then solder leads **B** and **C**.



SERVICE ADJUSTMENTS

ADJUSTMENT PREPARATION

1. **You can make the necessary adjustments for this unit with either the remote control unit or with the adjustment equipment and parts as given below.**
2. **Adjustment with the remote control unit is made on the basis of the initial setting values, however, the new setting values which set the screen to its optimum condition may differ from the initial settings.**
3. Make sure that AC power is turned on correctly.
4. Turn on the power for the set and test equipment before use, and start the adjustment procedures after waiting at least 30 minutes.
5. Unless otherwise specified, prepare the most suitable reception or input signal for adjustment.
6. Never touch any adjustment parts, which are not specified in the list for this adjustment-variable resistors, transformers, capacitors, etc.
7. Presetting before adjustment.
   Unless otherwise specified in the adjustment instructions, preset the following functions with the remote control unit.

● User mode setting position

Setting item	Setting value
PICTURE MODE(VSM)	BRIGHT
VNR	OFF
BASS, TREBLE, BALANCE	CENTRE
TINT, COLOUR, BRIGHT, SHARP	CENTRE
CONTRAST	MAXIMUM

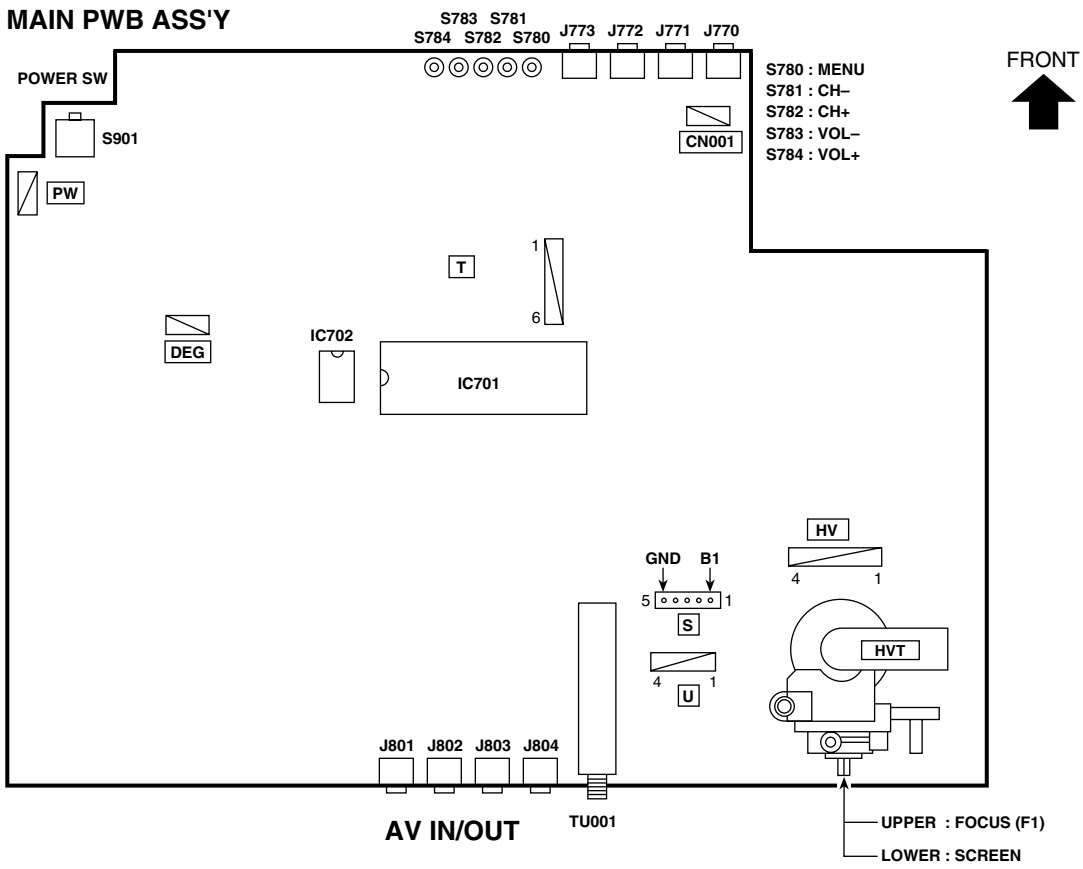
MEASURING INSTRUMENT

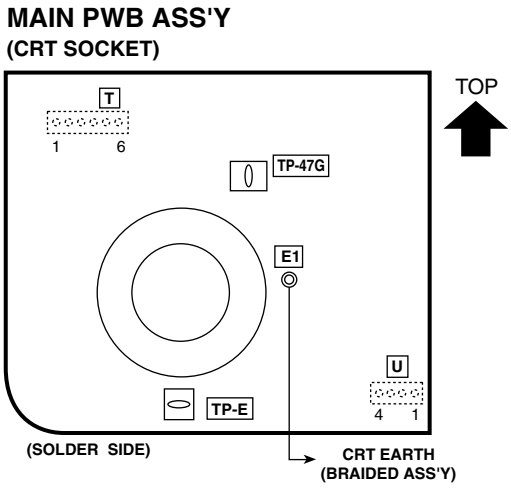
1. DC voltmeter (or Digital voltmeter)
2. Oscilloscope
3. Signal generator (Pattern generator) [PAL/SECAM/NTSC]
4. Remote control unit

ADJUSTMENT ITEMS

- B1 POWER SUPPLY
- FOCUS ADJUSTMENT
- IF CIRCUIT ADJUSTMENTS
  - Adjustment of VCO (CW)
  - Adjustment of DELAY POINT (AGC TAKE-OVER)
- VC (VIDEO/CHROMA) CIRCUIT ADJUSTMENTS
  - Adjustment of WHITE BALANCE (Low light)
  - Adjustment of WHITE BALANCE (High light)
  - Adjustment of SUB BRIGHT
  - Adjustment of SUB CONTRAST
  - Adjustment of SUB COLOUR-I
  - Adjustment of SUB COLOUR-II
  - Adjustment of SUB TINT-I
  - Adjustment of SUB TINT-II
- DEFLECTION CIRCUIT ADJUSTMENTS
  - Adjustment of V. SLOPE
  - Adjustment of V. POSITION
  - Adjustment of V. HEIGHT
  - Adjustment of H. POSITION
  - Adjustment of H. WIDTH
  - Adjustment of SIDE PIN
  - Adjustment of TRAPEZIUM
  - Adjustment of V. S-CURVE
  - Adjustment of CORNER
  - Adjustment of H. PARALLEL
  - Adjustment of H. BOW
- VSM PRESET SETTING
- PRESET SETTING
- PURITY ADJUSTMENT
- CONVERGENCE ADJUSTMENTS
  - Adjustment of STATIC CONVERGENCE
  - Adjustment of DYNAMIC CONVERGENCE

ADJUSTMENT LOCATIONS





BASIC OPERATION IN SERVICE MENU

1. TOOL OF SERVICE MENU OPERATION

Operate the SERVICE MENU with the remote control unit.

2. SERVICE MENU ITEMS

With the SERVICE MENU,various settings (adjustments)can be made,and they are broadly classified in the following items of settings:

- 1.IF ..... For entering/adjusting the setting values (adjustment values)of the IF circuit.
- 2.VC ..... For entering/adjusting the setting values (adjustment values)of the VIDEO/CHROMA circuit.
- 3.DEF ..... For entering/adjusting the setting values (adjustment values)of the DEFLECTION circuit.
- 4.VSM PRESET ..... For setting the values of STANDARD,SOFT and BRIGHT.
  (VSM:video status memory)
- 5.PRESET ..... For setting the values of the preset.
- 6.PLUG & PLAY (ON) ..... This is not used for service.

3. BASIC OPERATION IN SERVICE MENU

(1) How to enter SERVICE MENU

Press the DISPLAY key and the PICTURE MODE key on the remote control unit simultaneously.
The SERVICE MENU screen will be displayed. (See Fig. 1 on the next page.)

(2) Selection of SUB MENU SCREEN

Press one of the keys 1 to 6 on the remote control unit,and select the SUB MENU SCREEN from the SERVICE MENU.(See Fig.1 on the next page.)

SERVICE MENU → SUB MENU
1. IF
2. VC
3. DEF
4. VSM PRESET
5. PRESET
6. PLUG & PLAY (ON)

(3) Method of Setting

*Once the setting values are set,they are memorized automatically.
*It must not adjust without inputting a signal.

1) 1. IF

[1.VCO]

(a) 1 Key ..... Select **1. IF**.
(b) 1 Key ..... Select **1. VCO**.
(c) DISPLAY Key ..... When this is pressed twice, you will return to the SERVICE MENU.
- Under normal conditions, no adjustment is required.

[2.DELAY POINT]

(a) 1 Key ..... Select **1. IF**.
(b) 2 Key ..... Select **2.DELAY POINT**.
(c) MENU ◁/▷ Key ..... Adjust the setting value.
(d) DISPLAY Key ..... When this is pressed twice, you will return to the SERVICE MENU.

2) 2. VC, 3. DEF, 4. VSM PRESET and **5. PRESET**

(a) 2 ~5 Keys ..... Select one from **2. VC**, **3. DEF**, **4. VSM PRESET** and **5. PRESET**
(b) MENU ▽/△ key ..... Select setting items.
(c) MENU ◁/▷ Key ..... Adjust the setting values of the setting items.
- Use the number keys on the remote control unit for setting of WHITE BALANCE.
  For the setting, refer to each item concerned.

(d) DISPLAY Key ..... When this is pressed, you will return to the SERVICE MENU.

3) 6. PLUG & PLAY (ON)

This is not used for service.

(4) Release of SERVICE MENU

After completing the setting, return to the SERVICE MENU by pressing the DISPLAY key, then again press the DISPLAY key to return to the normal screen.

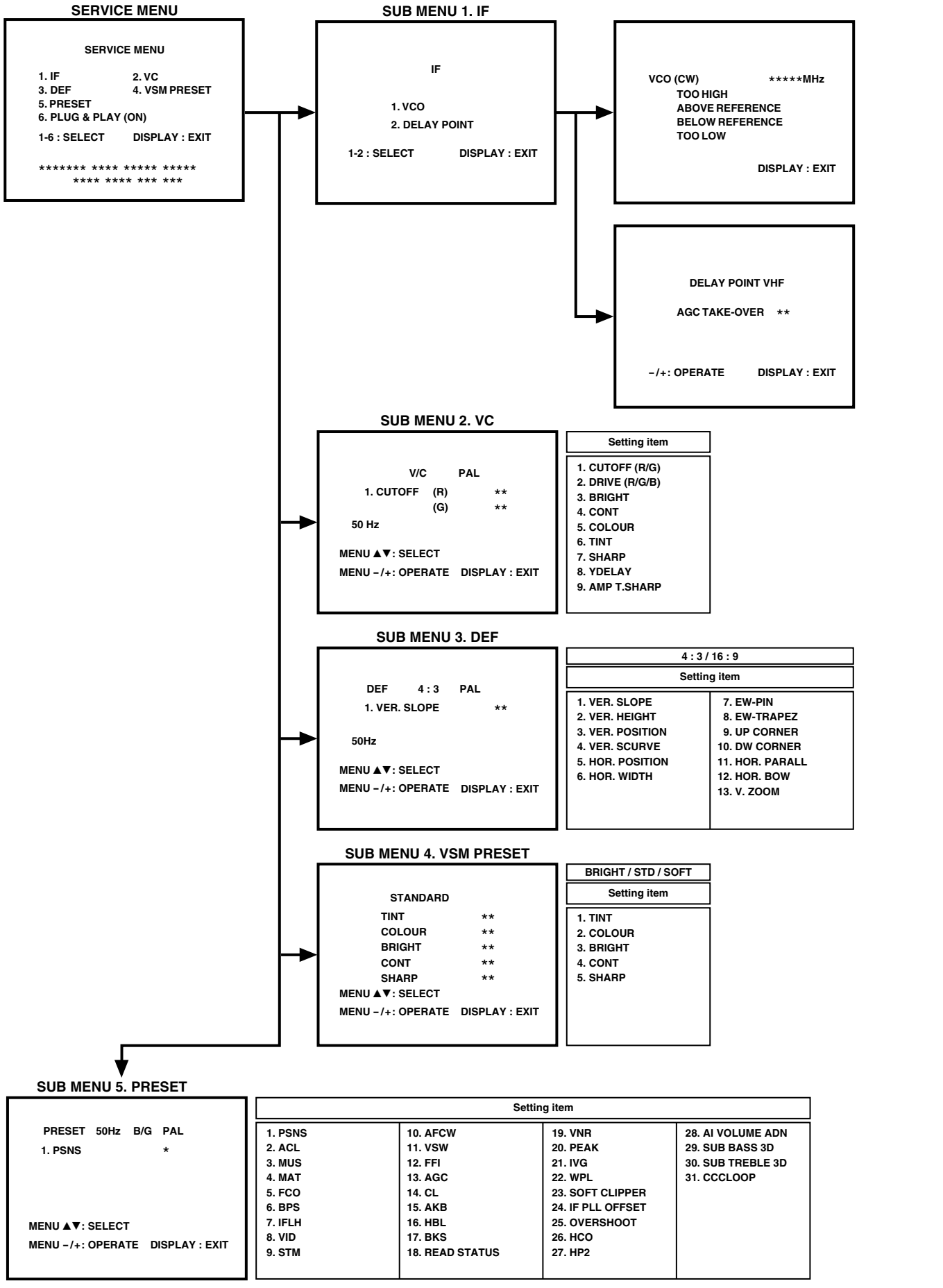

SERVICE MENU
SERVICE MENU
1. IF
2. VC
3. DEF
4. VSM PRESET
5. PRESET
6. PLUG & PLAY (ON)
1-6 : SELECT
DISPLAY : EXIT
******* **** ***** *****
**** **** *** ***
SUB MENU 1. IF
IF
1. VCO
2. DELAY POINT
1-2 : SELECT
DISPLAY : EXIT
VCO (CW)
*****MHz
TOO HIGH
ABOVE REFERENCE
BELOW REFERENCE
TOO LOW
DISPLAY : EXIT
DELAY POINT VHF
AGC TAKE-OVER **
–/+: OPERATE
DISPLAY : EXIT
SUB MENU 2. VC
V/C PAL
1. CUTOFF (R) **
(G) **
50 Hz
MENU ▲▼: SELECT
MENU –/+: OPERATE DISPLAY : EXIT
Setting item
1. CUTOFF (R/G)
2. DRIVE (R/G/B)
3. BRIGHT
4. CONT
5. COLOUR
6. TINT
7. SHARP
8. YDELAY
9. AMP T.SHARP
SUB MENU 3. DEF
DEF 4 : 3 PAL
1. VER. SLOPE **
50Hz
MENU ▲▼: SELECT
MENU –/+: OPERATE DISPLAY : EXIT
4 : 3 / 16 : 9
Setting item
1. VER. SLOPE
2. VER. HEIGHT
3. VER. POSITION
4. VER. SCURVE
5. HOR. POSITION
6. HOR. WIDTH
7. EW-PIN
8. EW-TRAPEZ
9. UP CORNER
10. DW CORNER
11. HOR. PARALL
12. HOR. BOW
13. V. ZOOM
SUB MENU 4. VSM PRESET
STANDARD
TINT **
COLOUR **
BRIGHT **
CONT **
SHARP **
MENU ▲▼: SELECT
MENU –/+: OPERATE DISPLAY : EXIT
BRIGHT / STD / SOFT
Setting item
1. TINT
2. COLOUR
3. BRIGHT
4. CONT
5. SHARP
SUB MENU 5. PRESET
PRESET 50Hz B/G PAL
1. PSNS *
MENU ▲▼: SELECT
MENU –/+: OPERATE DISPLAY : EXIT
Setting item
1. PSNS
2. ACL
3. MUS
4. MAT
5. FCO
6. BPS
7. IFLH
8. VID
9. STM
10. AFCW
11. VSW
12. FFI
13. AGC
14. CL
15. AKB
16. HBL
17. BKS
18. READ STATUS
19. VNR
20. PEAK
21. IVG
22. WPL
23. SOFT CLIPPER
24. IF PLL OFFSET
25. OVERSHOOT
26. HCO
27. HP2
28. AI VOLUME ADN
29. SUB BASS 3D
30. SUB TREBLE 3D
31. CCCLOOP

Fig. 1

ADJUSTMENTS

B1 POWER SUPPLY

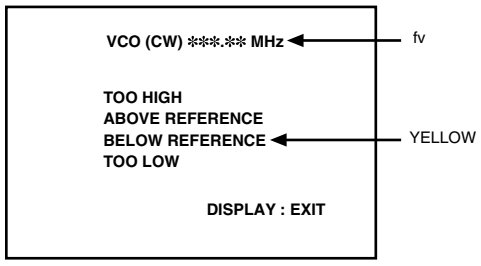
Item	Measuring instrument	Test point	Adjustment part	Description
Check of B1 POWER SUPPLY	**Signal generator** **DC voltmeter**	**B1 (pin 1) GND (pin 5) [CN00S connector in MAIN PWB]**		1. Receive a black and white signal. 2. Connect a DC voltmeter between B1 and GND (between pin 1 and 5 of the connector CN00S). 3. Make sure that the voltage is **DC115 ± 1.5V**.

FOCUS ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of FOCUS	**Signal generator**		**FOCUS VR [In HVT]**	**Notes:** • Set PICTURE MODE (VSM) to "BRIGHT". • The final adjustment of CONVERGENCE must be done after the FOCUS adjustment. (CONVERGENCE is changed by FOCUS adjustment.) When makes difference by FOCUS adjustment, should be reconfirming PURITY adjustment. 1. Receive a cross-hatch signal. 2. While looking at the screen centre, adjust the FOCUS VR so that the vertical and horizontal lines will be clear and in fine detail. 3. Make sure that the picture is in focus even when the screen gets darkened.

IF CIRCUIT ADJUSTMENTS

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of VCO (CW)	**Remote control unit**		**VCO (CW)**	**Note:** • Under normal conditions, no adjustment is required. 1. Select **1. IF** from the SERVICE MENU. 2. Select **1. VCO** by pressing the **1** key on the remote control unit. 3. Receive a broadcast signal. 4. Check the characters colour of the **BELOW REFERENCE** displayed to **yellow**. 5. Press the DISPLAY key three times to return to normal screen.
Adjustment of DELAY POINT (AGC TAKE-OVER)	**Remote control unit**		**DELAY POINT**	1. Receive a black and white broadcast signal (colour off). 2. Select **1. IF** from the SERVICE MENU. 3. Select **2. DELAY POINT** by pressing the **2** key on the remote control unit. 4. Adjust the MENU ◁/▷ key in order to eliminate any noise or beat from the image. Any increase above the initial value produces noise and any decrease below it produces beat. 5. Press the DISPLAY key three times to return to the normal screen. 6. Turn to other channels and make sure that there are no irregularities.



Setting (Adjustment time)	Initial setting value
DELAY POINT (AGC TAKE-OVER)	26

VC (VIDEO/CHROMA) CIRCUIT ADJUSTMENTS

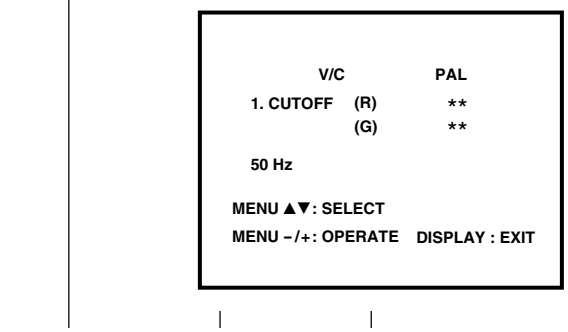
The setting (adjustment) using the remote control unit is made on the basis of the initial setting values.
The setting values which adjust the screen to the optimum condition can be different from the initial setting values.
● Do not change the initial setting values of the setting (adjustment) items not listed in "ADJUSTMENT".

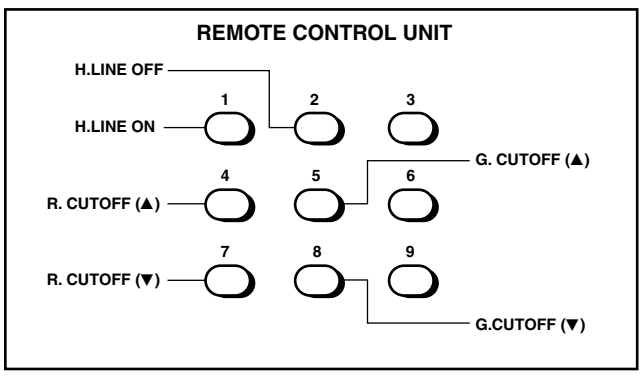
[SUB MENU 2. VC] : **Do not adjust.**

	Setting (Adjustment) item	Variable range	Initial setting value				
			PAL	SECAM	NTSC3.58	NTSC4.43	COMPONENT (V-2)
1	CUT-OFF (R/G)	-32 – +31	0/0	←	←	←	←
2	DRIVE (R/G/B)	-32 – +31	0/0/0	←	←	←	←
3	BRIGHT (TV/V-1/V-2/V-3)	-32 – +31	-18/-1/-1/-1	←	←	←	—/—/-2/—
4	CONT	-32 – +31	-20	←	←	←	—
5	COLOUR	-32 – +31	-5	-3	-12	-2	+10
6	TINT (TV/VIDEO) *1	-32 – +31	—	—	-15/+2	+1/+1	—
	TINT (TV/VIDEO) *2		—	—	-15/-4	+1/+1	—
7	SHARP (TV/VIDEO) *3	-32 – +31	-15/+5	←	←	←	—/0
	SHARP (TV/VIDEO) *4		-10/+5	←	←	←	—/0
8	Y DELAY (TV/VIDEO)	-8 – +7	-7/+1	+5/+1	0/+1	-7/0	—
9	AMP T. SHARP	-32 – +31	0	←	←	←	←

*1: AV-20N83/BK, AV-21D83/VT, AV-20N83/VT *2: AV-21D83/BK *3: AV-20N83/BK, AV-21D83/BK, AV-20N83/VT *4: AV-21D83/VT

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of WHITE BALANCE (Low light)	**Signal generator** **Remote control unit**		**1. CUTOFF (R)** **CUTOFF (G)** **SCREEN VR [In HVT]**	**Note:** • Set PICTURE MODE (VSM) to "BRIGHT". 1. Receive a PAL black and white signal (colour off). 2. Select **2. VC** from the SERVICE MENU. 3. Select **1. CUTOFF (R)** and **(G)** with MENU ▽/△ key, and set each value to initial setting value with the **4** and **7** keys, or **5** and **8** keys on the remote control unit. 4. Press the **1** key on the remote control unit to produce a single horizontal line. 5. Turn the SCREEN VR fully counterclockwise, then slowly turn it clockwise to where a red, blue or green colour is faintly visible. 6. Use the keys **4** and **7** or **5** and **8** on the remote control unit and adjust the other 2 colours to where the single horizontal line appears white. 7. Turn the SCREEN VR to where the single horizontal line glows faintly. 8. Press the **2** key to return to **1. CUTOFF** screen. 9. Press the DISPLAY key twice to return to the normal screen.





Setting (Adjustment) Item		Variable range	Initial setting value
1. CUT OFF	R	–32 — +31	0
	G	–32 — +31	0

<table>
<tr><th>Item</th><th>Measuring instrument</th><th>Test point</th><th>Adjustment part</th><th>Description</th></tr>
<tr><td>Adjustment of WHITE BALANCE (High light)</td><td>Signal generator

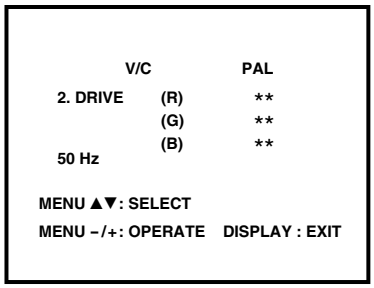
Remote control unit</td><td></td><td>2. DRIVE (R)
DRIVE (G)
DRIVE (B)</td><td>Notes:
• Proceed to the following adjustment after having completed the adjustment of LOW LIGHT WHITE BALANCE.
• Set PICTURE MODE (VSM) to “BRIGHT”.

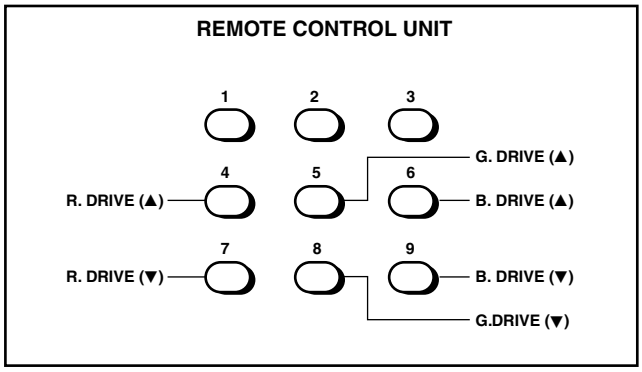
1. Receive a PAL black and white signal (colour off).
2. Select 2. VC from the SERVICE MENU.
3. Select 2. DRIVE (R), (G) and (B) with MENU ▽/△ key, and set each value to initial setting value with the 4 to 9 keys on the remote control unit.
4. Use the keys 4 to 9 to produce a white screen.
5. Press the DISPLAY key twice to return to the normal screen.

<table><tr><th colspan="2">Setting (Adjustment) Item</th><th>Variable range</th><th>Initial setting value</th></tr><tr><td rowspan="3">2. DRIVE</td><td>R</td><td>–32 — +31</td><td>0</td></tr><tr><td>G</td><td>–32 — +31</td><td>0</td></tr><tr><td>B</td><td>–32 — +31</td><td>0</td></tr></table></td></tr>
<tr><td>Adjustment of SUB BRIGHT</td><td>Remote control unit</td><td></td><td>3. BRIGHT</td><td>Notes:
• Proceed to the following adjustment after having completed the adjustments of LOW LIGHT WHITE BALANCE and HIGH LIGHT WHITE BALANCE.
• Set PICTURE MODE (VSM) to “BRIGHT”.

1. Receive a broadcast.
2. Select 2. VC from the SERVICE MENU.
3. Select 3. BRIGHT with the MENU ▽/△ key.
4. Set the initial setting value with the MENU ◁/▷ key.
5. If the brightness is not best with the initial setting value, make fine adjustment until you get the best brightness.
6. Press the DISPLAY key twice to return to the normal screen.</td></tr>
<tr><td>Adjustment of SUB CONTRAST</td><td>Remote control unit</td><td></td><td>4. CONT</td><td>Notes:
• Proceed to the following adjustment after having completed the adjustment of SUB BRIGHT.
• Set PICTURE MODE (VSM) to “BRIGHT”.

1. Receive a broadcast.
2. Select 2. VC from the SERVICE MENU.
3. Select 4. CONT with the MENU ▽/△ key.
4. Set the initial setting value with the MENU ◁/▷ key.
5. If the contrast is not best with the initial setting value, make fine adjustment until you get the best contrast.
6. Press the DISPLAY key twice to return to the normal screen.</td></tr>
</table>

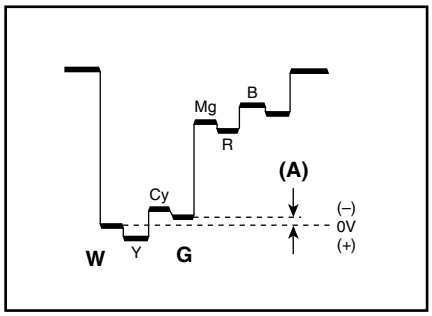




<table>
<tr><th>Item</th><th>Measuring instrument</th><th>Test point</th><th>Adjustment part</th><th>Description</th></tr>
<tr><td>Adjustment of SUB COLOUR-I</td><td>Remote control unit</td><td></td><td>5. COLOUR</td><td>[Method of adjustment without measuring instrument]
Notes:
• Proceed to the following adjustment after having completed the adjustment of SUB CONT.
• Set PICTURE MODE (VSM) to “BRIGHT”.
– PAL COLOUR –
1. Receive a PAL broadcast.
2. Select 2. VC from the SERVICE MENU.
3. Select 5. COLOUR with the MENU ▽/△ key.
4. Set the initial setting value for PAL COLOUR with the MENU ◁/▷ key.
5. If the colour is not best with the initial setting value, make fine adjustment until you get the best colour.
6. Press the DISPLAY key twice to return to the normal screen.
– SECAM COLOUR –
7. Receive a SECAM broadcast.
8. Press the COLOUR SYSTEM button on the remote control unit to select the SECAM colour system.
9. Make fine adjustment of SECAM COLOUR in the same way as for “PAL COLOUR”.
– NTSC 3.58 COLOUR –
10. Receive a NTSC 3.58MHz broadcast.
11. Press the COLOUR SYSTEM button on the remote control unit to select the NTSC 3.58 colour system.
12. Make similar fine adjustment of NTSC 3.58 COLOUR in the same way as for “PAL COLOUR”.
– NTSC 4.43 COLOUR –
When adjustment is done for NTSC 3.58 COLOUR, appropriate values are automatically set for NTSC 4.43 COLOUR.</td></tr>
<tr><td>Adjustment of SUB COLOUR-II</td><td>Signal generator

Oscilloscope

Remote control unit</td><td>TP-47G TP-E (⏚) [MAIN PWB (CRT SOCKET)]</td><td>5. COLOUR</td><td>[Method of adjustment using measuring instrument]
Notes:
• Proceed to the following adjustment after having completed the adjustment of SUB CONT.
• Set PICTURE MODE (VSM) to “BRIGHT”.
– PAL COLOUR –
1. Receive a PAL colour bar signal (full field colour bar 75% white).
2. Select 2. VC from the SERVICE MENU.
3. Select 5. COLOUR with the MENU ▽/△ key.
4. Set the initial setting value of PAL COLOUR with the MENU ◁/▷ key.
5. Connect the oscilloscope between TP-47G and TP-E.
6. Adjust PAL COLOUR to set the value (A) in the figure to voltage as shown in Table 1.
– SECAM COLOUR –
7. Receive a SECAM colour bar signal (full field colour bar 75% white).
8. Press the COLOUR SYSTEM button on the remote control unit to select the SECAM colour system.
9. Set the initial setting value of SECAM COLOUR with the MENU ◁/▷ key.
10. Adjust SECAM COLOUR to set the value (A) in the figure to voltage as shown in Table 1.
– NTSC 3.58 COLOUR –
11. Receive a NTSC 3.58 colour bar signal (full field colour bar 75% white).
12. Press the COLOUR SYSTEM button on the remote control unit to select the NTSC 3.58 colour system.
13. Set the initial setting value of NTSC 3.58 COLOUR with the MENU ◁/▷ key.
14. Adjust NTSC 3.58 COLOUR to set the value (A) in the figure to voltage as shown in Table 1.
– NTSC 4.43 COLOUR –
When adjustment is done for NTSC 3.58 COLOUR, appropriate values are automatically set for NTSC 4.43 COLOUR.</td></tr>
</table>



	A (V_{W-G})		
	PAL	**SECAM**	**NTSC3.58**
AV-20N83/BK, AV-20N83/VT	+8V	+6V	-12V
AV-21D83/BK, AV-21D83/VT	+11V	+13V	+2V

Table 1

<table>
<tr><th>Item</th><th>Measuring instrument</th><th>Test point</th><th>Adjustment part</th><th>Description</th></tr>
<tr><td>Adjustment of SUB TINT-I</td><td>Signal generator

Remote control unit</td><td></td><td>6. TINT</td><td>[Method of adjustment without measuring instrument]
Notes:
• Proceed to the following adjustment after having completed the adjustment of SUB CONT.
• Set PICTURE MODE (VSM) to “BRIGHT”.

– NTSC 3.58 TINT –
1. Receive a NTSC 3.58 colour bar signal (full field colour bar 75% white).
2. Press the COLOUR SYSTEM button on the remote control unit to select the NTSC 3.58 colour system.
3. Select 2. VC from the SERVICE MENU.
4. Select 6. TINT with the MENU ▽/△ key.
5. Set the initial setting value of NTSC 3.58 with the MENU ◁/▷ key.
6. If you cannot get the best tint with the initial setting value, make fine adjustment until you get the best tint.
7. Press the DISPLAY key twice to return to the normal screen.

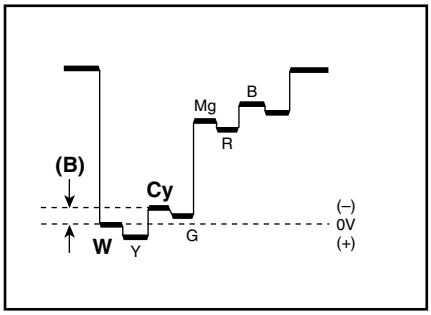
– NTSC 4.43 TINT –
When adjustment is done for NTSC 3.58 TINT, appropriate values are automatically set for NTSC 4.43 TINT.</td></tr>
<tr><td>Adjustment of SUB TINT-II</td><td>Signal generator

Oscilloscope

Remote control unit</td><td>TP-47G TP-E () [MAIN PWB (CRT SOCKET)]</td><td>6. TINT</td><td>[Method of adjustment using measuring instrument]
Notes:
• Proceed to the following adjustment after having completed the adjustment of SUB CONT.
• Set PICTURE MODE (VSM) to “BRIGHT”.

– NTSC 3.58 TINT –
1. Receive a NTSC 3.58 colour bar signal (full field colour bar 75% white).
2. Press the COLOUR SYSTEM button on the remote control unit to select the NTSC 3.58 colour system.
3. Select 2. VC from the SERVICE MENU.
4. Select 6. TINT with the MENU ▽/△ key.
5. Set the initial setting value of NTSC 3.58 with the MENU ◁/▷ key.
6. Connect the oscilloscope between TP-47G and TP-E.
7. Adjust NTSC 3.58 TINT to set the value (B) in the figure to voltage as shown in Table 2.
8. Press the DISPLAY key twice to return to the normal screen.

– NTSC 4.43 TINT –
When adjustment is done for NTSC 3.58 TINT, appropriate values are automatically set for NTSC 4.43 TINT.</td></tr>
</table>



Model	**B** (V_{W-Cy})
AV-20N83/BK, AV-20N83/VT	-6V
AV-21D83/BK, AV-21D83/VT	0V

Table 2

DEFLECTION CIRCUIT ADJUSTMENTS

The setting (adjustment) using the remote control unit is made on the basis of the initial setting values.
The setting values which adjust the screen to the optimum condition can be different from the initial setting values.

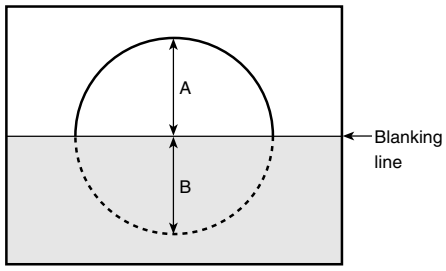
Note:
Proceed to the following adjustment after having completed the adjustments of SUB BRIGHT and SUB PICTURE.

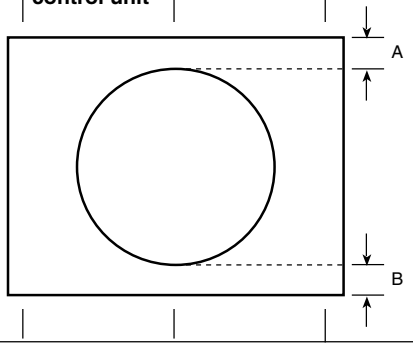
[SUB MENU 3. DEF]

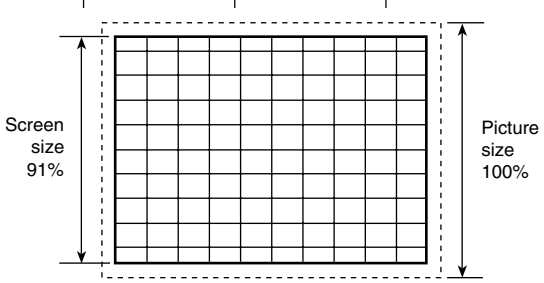
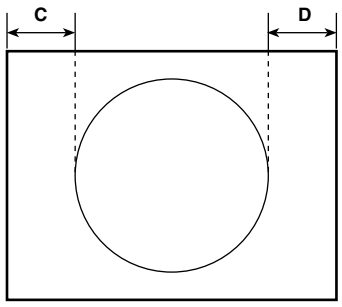
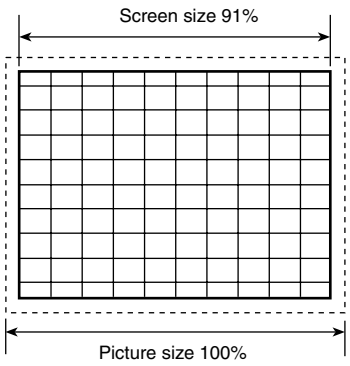
Setting (Adjustment) item	Variable range	Initial setting value				
		4:3		COMPRESS(16:9)		COMPONENT DVD (50Hz)
		50Hz	60Hz	50Hz	60Hz	
1. VER. SLOPE	–32 — +31	0	0	0	0	—
2. VER. HEIGHT	–32 — +31	+31	+31	0	0	—
3. VER. POSITION	–32 — +31	0	0	0	0	—
4. VER. SCURVE	–32 — +31	–21	0	-21	0	—
5. HOR. POSITION	–32 — +31	0	0	0	0	+7
6. HOR. WIDTH	–32 — +31	0	0	0	0	—
7. EW-PIN	–32 — +31	0	0	0	0	—
8. EW-TRAPEZ	–32 — +31	0	0	0	0	—
9. UP CORNER	–32 — +31	0	0	0	0	—
10. DW CORNER	–32 — +31	0	0	0	0	—
11. HOR. PARALL	–32 — +31	0	0	0	0	—
12. HOR. BOW	–32 — +31	0	0	0	0	—
13. V.ZOOM	–32 — +31	+2	–1	+7	+9	—

[COMPRESS (16:9) : OFF, fv: 50Hz mode]

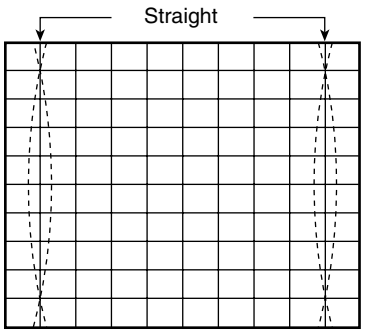
Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of V. SLOPE	**Signal generator** **Remote control unit**		**1. VER. SLOPE**	1. Receive a PAL circle pattern signal of vertical frequency 50Hz. 2. Select **3. DEF** from the SERVICE MENU. 3. Select **1. VER. SLOPE** with the MENU ▽/△ key. 4. Set the initial setting value of **1. VER. SLOPE** with the MENU ◁/▷ key. 5. Adjust **1. VER. SLOPE** to make "**A = B**" with the MENU ◁/▷ key.
Adjustment of V. POSITION	**Signal generator** **Remote control unit**		**3. VER. POSITION**	6. Select **3. VER. POSITION** with the MENU ▽/△ key. 7. Set the initial setting value of **3. VER. POSITION** with the MENU ◁/▷ key. 8. Adjust **3. VER. POSITION** to make "**A = B**" with the MENU ◁/▷ key. (to be continued)

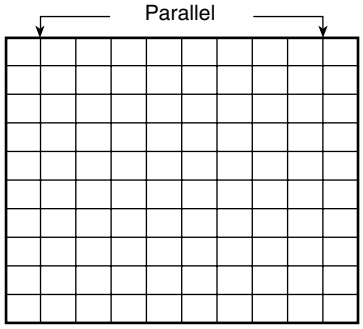


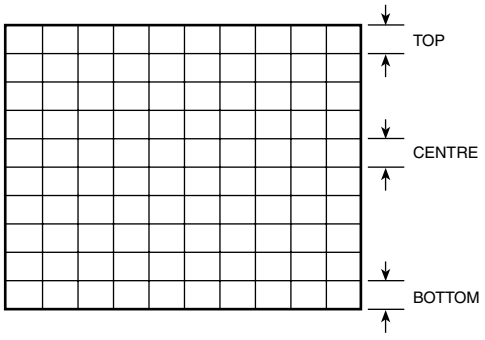


Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of V. HEIGHT	**Signal generator** **Remote control unit** 		**2. VER. HEIGHT** **13. V. ZOOM**	9. Receive a PAL cross-hatch signal. 10. Select **2. VER. HEIGHT** with the MENU ▽/△ key. 11. Set the initial setting value of **2. VER. HEIGHT** with the MENU ◁/▷ key. 12. Select **13. V. ZOOM** with the MENU ▽/△ key. 13. Set the initial setting value of **13. V. ZOOM** with the MENU ◁/▷ key. 14. Adjust **13. V. ZOOM** and make the vertical screen size 91% of the picture size with the MENU ◁/▷ key.
Adjustment of H. POSITION	**Signal generator** **Remote control unit** 		**5. HOR. POSITION**	15. Receive a PAL circle pattern signal. 16. Select **5. HOR. POSITION** with the MENU ▽/△ key. 17. Set the initial setting value of **5. HOR. POSITION** with the MENU ◁/▷ key. 18. Adjust **5. HOR POSITION** to make "**C=D**" with the MENU ◁/▷ key.
Adjustment of H. WIDTH	**Signal generator** **Remote control unit** 		**6. HOR. WIDTH**	19. Receive a PAL cross-hatch signal. 20. Select **6. HOR. WIDTH** with the MENU ▽/△ key. 21. Set the initial setting value of **6. HOR. WIDTH** with the MENU ◁/▷ key. 22. Adjust **6. HOR. WIDTH** and make the horizontal screen size 91% of the picture size with the MENU ◁/▷ key. (to be continued)

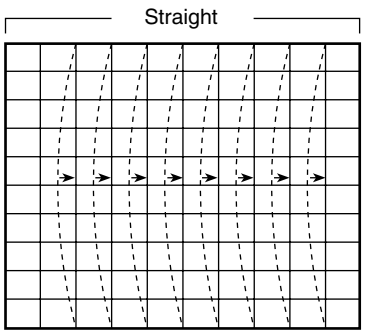
Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SIDE PIN	**Signal generator** **Remote control unit**		**7. EW-PIN**	23. Select **7. EW-PIN** with the MENU ▽/△ key. 24. Set the initial setting value of **7. EW-PIN** with the MENU ◁/▷ key. 25. Adjust **7. EW-PIN** so that the first vertical lines at the left and right edges on the screen are straight.
Adjustment of TRAPEZIUM	**Signal generator** **Remote control unit**		**8. EW-TRAPEZ**	26. Select **8. EW-TRAPEZ** with the MENU ▽/△ key. 27. Set the initial setting value of **8. EW-TRAPEZ** with the MENU ◁/▷ key. 28. Adjust **8. EW-TRAPEZ** so that the vertical lines at the left and right edges on the screen are in parallel.
Adjustment of V.S-CURVE	**Signal generator** **Remote control unit**		**4. VER. SCURVE**	29. Select **4. VER. SCURVE** with the MENU ▽/△ key. 30. Set the initial setting value of **4. VER. SCURVE** with the MENU ◁/▷ key. 31. Adjust **4. VER. SCURVE** so that the spaces of each line on TOP, CENTRE and BOTTOM become uniform. (to be continued)





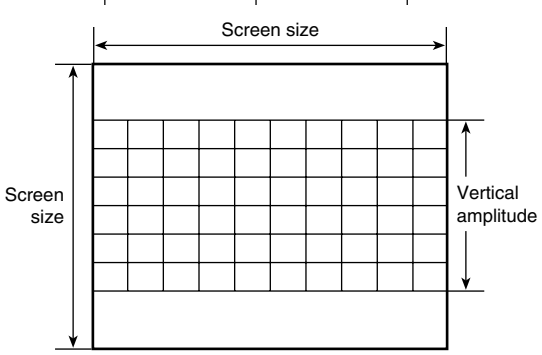


Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of CORNER	**Signal generator** **Remote control unit**		**9. UP CORNER** **10. DW CORNER**	32. Select **9. UP CORNER** with the MENU ▽/△ key. 33. Set the initial setting value of **9. UP CORNER** with the MENU ◁/▷ key. 34. Select **10. DW CORNER** with the MENU ▽/△ key. 35. Set the initial setting value of **10. DW CORNER** with the MENU ◁/▷ key. 36. Adjust **9. UP CORNER** and **10. DW CORNER** so that the vertical lines at the four corners on the screen are straight.
Adjustment of H. PARALLEL	**Signal generator** **Remote control unit**		**11. HOR. PARALL**	37. Select **11. HOR. PARALL** with the MENU ▽/△ key. 38. Set the initial setting value of **11. HOR. PARALL** with the MENU ◁/▷ key. 39. Adjust **11. HOR. PARALL** to optimize the parallelogram distortion.
Adjustment of H. BOW	**Signal generator** **Remote control unit**		**12. HOR. BOW**	40. Select **12. HOR. BOW** with the MENU ▽/△ key. 41. Set the initial setting value of **12. HOR. BOW** with the MENU ◁/▷ key. 42. Adjust **12. HOR. BOW** to optimize the horizontal arc distortion. 43. Press the DISPLAY key twice to return to the normal screen.



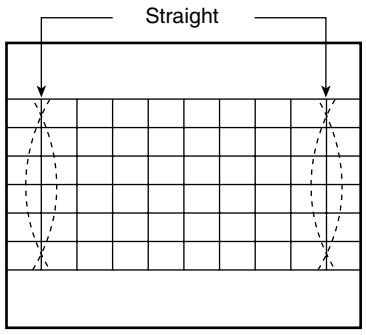
[COMPRESS (16 : 9) : ON, fv: 50Hz mode]

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of V. HEIGHT	**Signal generator** **Remote control unit**		**13. V. ZOOM** **2. VER. HEIGHT**	1. Receive a PAL cross-hatch signal of vertical frrequency 50Hz. 2. Select COMPRESS from the MENU and set COMPRESS to ON. 3. Select **3. DEF** from the SERVICE MENU. 4. Set the initial setting value of **13. V. ZOOM** with the MENU ◁/▷ key. 5. Select **2. VER. HEIGHT** with the MENU ▽/△ key. 6. Set the initial setting value of **2. VER. HEIGHT** with the MENU ◁/▷ key. 7. Adjust **2. VER. HEIGHT** to set the vertical amplitude of the image to the value shown in Table 3.
Adjustment of SIDE PIN	**Signal generator** **Remote control unit**		**7. EW-PIN**	8. Select **7. EW-PIN** with the MENU ▽/△ key. 9. Set the initial setting value of **7. EW-PIN** with the MENU ◁/▷ key. 10. Adjust **7. EW-PIN** so that the first vertical lines at the left and right edges on the screen are straight.
Adjustment of CORNER	**Signal generator** **Remote control unit**		**9. UP CORNER** **10. DW CORNER**	11. Select **9. UP CORNER** with the MENU ▽/△ key. 12. Set the initial setting value of **9. UP CORNER** with the MENU ◁/▷ key. 13. Select **10. DW CORNER** with the MENU ▽/△ key. 14. Set the initial setting value of **10. DW CORNER** with the MENU ◁/▷ key. 15. Adjust **9. UP CORNER** and **10. DW CORNER** so that the vertical lines at the four corners on the screen are straight. 16. Press the DISPLAY key twice to return to the normal screen.



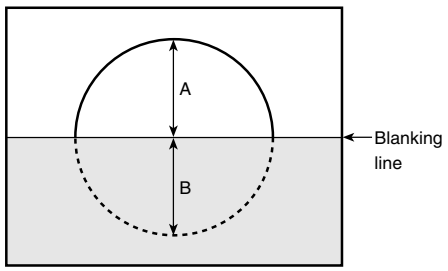
Model	Vertical Amplitude
AV-20N83/BK, AV-20N83/VT	230mm
AV-21D83/BK, AV-21D83/VT	235mm

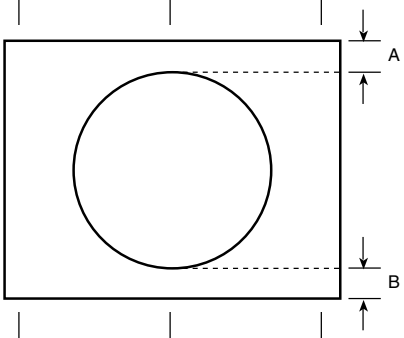
Table 3

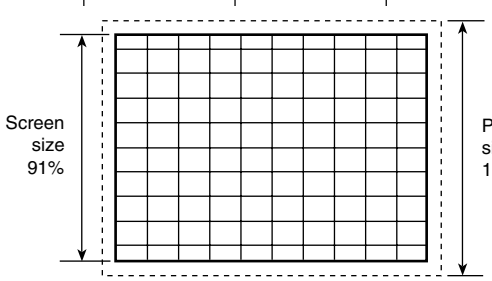
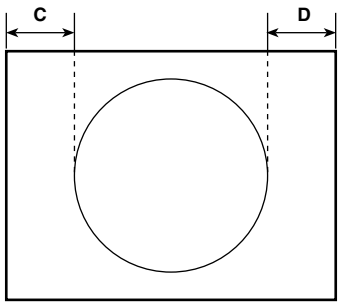
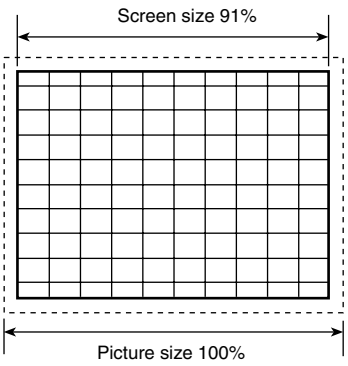


[COMPRESS (16 : 9) : OFF, fv: 60Hz mode]

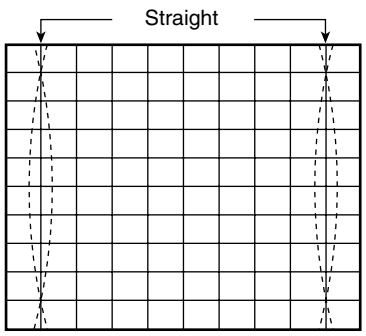
Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of V. SLOPE	**Signal generator** **Remote control unit**		**1. VER. SLOPE**	1. Receive a NTSC circle pattern signal of vertical frequency 60Hz. 2. Select **3. DEF** from the SERVICE MENU. 3. Select **1. VER. SLOPE** with the MENU ▽/△ key. 4. Set the initial setting value of **1. VER. SLOPE** with the MENU ◁/▷ key. 5. Adjust **1. VER. SLOPE** to make "**A = B**" with the MENU ◁/▷ key.
Adjustment of V. POSITION	**Signal generator** **Remote control unit**		**3. VER. POSITION**	6. Select **3. VER. POSITION** with the MENU ▽/△ key. 7. Set the initial setting value of **3. VER. POSITION** with the MENU ◁/▷ key. 8. Adjust **3. VER. POSITION** to make "**A = B**" with the MENU ◁/▷ key. (to be continued)

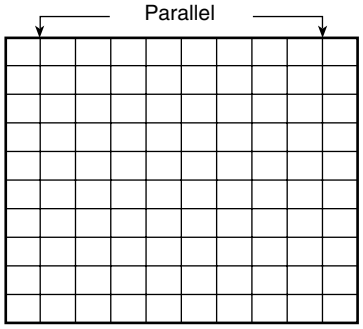


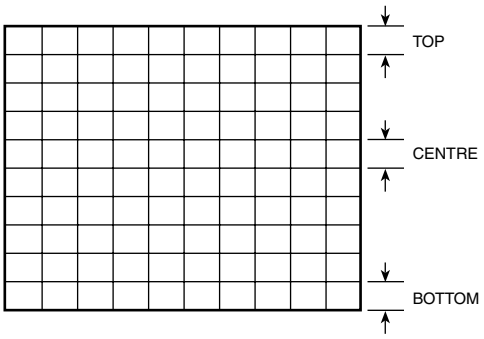


Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of V. HEIGHT	**Signal generator** **Remote control unit** 		**2. VER. HEIGHT** **13. V. ZOOM**	9. Receive a NTSC cross-hatch signal. 10. Select **2. VER. HEIGHT** with the MENU ▽/△ key. 11. Set the initial setting value of **2. VER. HEIGHT** with the MENU ◁/▷ key. 12. Select **13. V. ZOOM** with the MENU ▽/△ key. 13. Set the initial setting value of **13. V. ZOOM** with the MENU ◁/▷ key. 14. Adjust **13. V. ZOOM** and make the vertical screen size 91% of the picture size with the MENU ◁/▷ key.
Adjustment of H. POSITION	**Signal generator** **Remote control unit** 		**5. HOR. POSITION**	15. Receive a NTSC circle pattern signal. 16. Select **5. HOR. POSITION** with the MENU ▽/△ key. 17. Set the initial setting value of **5. HOR. POSITION** with the MENU ◁/▷ key. 18. Adjust **5. HOR POSITION** to make "**C=D**" with the MENU ◁/▷ key.
Adjustment of H. WIDTH	**Signal generator** **Remote control unit** 		**6. HOR. WIDTH**	19. Receive a NTSC cross-hatch signal. 20. Select **6. HOR. WIDTH** with the MENU ▽/△ key. 21. Set the initial setting value of **6. HOR. WIDTH** with the MENU ◁/▷ key. 22. Adjust **6. HOR. WIDTH** and make the horizontal screen size 91% of the picture size with the MENU ◁/▷ key. (to be continued)

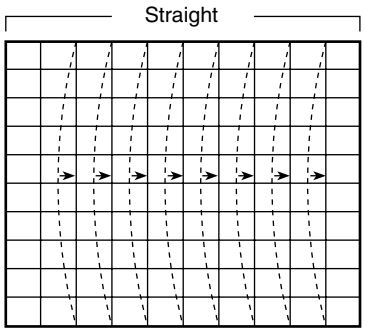
Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SIDE PIN	**Signal generator** **Remote control unit**		**7. EW-PIN**	23. Select **7. EW-PIN** with the MENU ▽/△ key. 24. Set the initial setting value of **7. EW-PIN** with the MENU ◁/▷ key. 25. Adjust **7. EW-PIN** so that the first vertical lines at the left and right edges on the screen are straight.
Adjustment of TRAPEZIUM	**Signal generator** **Remote control unit**		**8. EW-TRAPEZ**	26. Select **8. EW-TRAPEZ** with the MENU ▽/△ key. 27. Set the initial setting value of **8. EW-TRAPEZ** with the MENU ◁/▷ key. 28. Adjust **8. EW-TRAPEZ** so that the vertical lines at the left and right edges on the screen are in parallel.
Adjustment of V.S-CURVE	**Signal generator** **Remote control unit**		**4. VER. SCURVE**	29. Select **4. VER. SCURVE** with the MENU ▽/△ key. 30. Set the initial setting value of **4. VER. SCURVE** with the MENU ◁/▷ key. 31. Adjust **4. VER. SCURVE** so that the spaces of each line on TOP, CENTRE and BOTTOM become uniform. (to be continued)





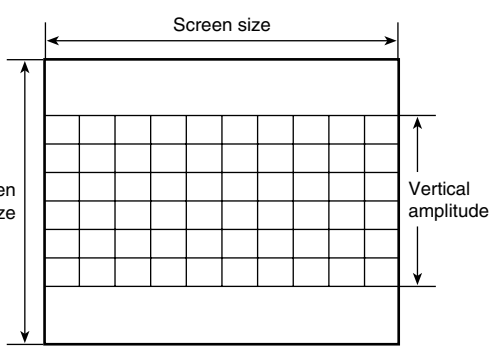


Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of CORNER	**Signal generator** **Remote control unit**		**9. UP CORNER** **10. DW CORNER**	32. Select **9. UP CORNER** with the MENU ▽/△ key. 33. Set the initial setting value of **9. UP CORNER** with the MENU ◁/▷ key. 34. Select **10. DW CORNER** with the MENU ▽/△ key. 35. Set the initial setting value of **10. DW CORNER** with the MENU ◁/▷ key. 36. Adjust **9. UP CORNER** and **10. DW CORNER** so that the vertical lines at the four corners on the screen are straight.
Adjustment of H. PARALLEL	**Signal generator** **Remote control unit**		**11. HOR. PARALL**	37. Select **11. HOR. PARALL** with the MENU ▽/△ key. 38. Set the initial setting value of **11. HOR. PARALL** with the MENU ◁/▷ key. 39. Adjust **11. HOR. PARALL** to optimize the parallelogram distortion.
Adjustment of H. BOW	**Signal generator** **Remote control unit**		**12. HOR. BOW**	40. Select **12. HOR. BOW** with the MENU ▽/△ key. 41. Set the initial setting value of **12. HOR. BOW** with the MENU ◁/▷ key. 42. Adjust **12. HOR. BOW** to optimize the horizontal arc distortion. 43. Press the DISPLAY key twice to return to the normal screen.



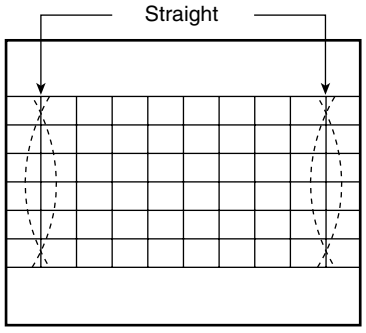
[COMPRESS (16 : 9) : ON, fV: 60Hz mode]

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of V. HEIGHT	**Signal generator** **Remote control unit**		**13. V. ZOOM** **2. VER. HEIGHT**	1. Receive a NTSC cross-hatch signal of vertical frrequency 60Hz. 2. Select COMPRESS from the MENU and set COMPRESS to ON. 3. Select **3. DEF** from the SERVICE MENU. 4. Set the initial setting value of **13. V. ZOOM** with the MENU ◁/▷ key. 5. Select **2. VER. HEIGHT** with the MENU ▽/△ key. 6. Set the initial setting value of **2. VER. HEIGHT** with the MENU ◁/▷ key. 7. Adjust **2. VER. HEIGHT** to set the vertical amplitude of the image to the value shown in Table 3.
Adjustment of SIDE PIN	**Signal generator** **Remote control unit**		**7. EW-PIN**	8. Select **7. EW-PIN** with the MENU ▽/△ key. 9. Set the initial setting value of **7. EW-PIN** with the MENU ◁/▷ key. 10. Adjust **7. EW-PIN** so that the first vertical lines at the left and right edges on the screen are straight.
Adjustment of CORNER	**Signal generator** **Remote control unit**		**9. UP CORNER** **10. DW CORNER**	11. Select **9. UP CORNER** with the MENU ▽/△ key. 12. Set the initial setting value of **9. UP CORNER** with the MENU ◁/▷ key. 13. Select **10. DW CORNER** with the MENU ▽/△ key. 14. Set the initial setting value of **10. DW CORNER** with the MENU ◁/▷ key. 15. Adjust **9. UP CORNER** and **10. DW CORNER** so that the vertical lines at the four corners on the screen are straight. 16. Press the DISPLAY key twice to return to the normal screen.

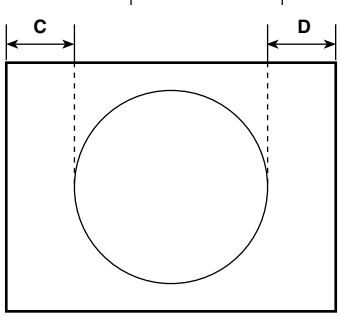


Model	Vertical Amplitude
AV-20N83/BK, AV-20N83/VT	230mm
AV-21D83/BK, AV-21D83/VT	235mm

Table 3



[VIDEO - 2 SET : COMPONENT, fv: 50/60Hz mode]

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of H. POSITION	**Signal generator** **Remote control unit** 		**5. HOR. POSITION**	1. Receive a PAL circle pattern signal to VIDEO-2 terminal. 2. Select VIDEO-2 SET from the MENU and set VIDEO-2 SET to COMPONENT. 3. Select **3. DEF** from the SERVICE MENU. 4. Select **5. HOR. POSITION** with the MENU ▽/△ key. 5. Set the initial setting value of **5. HOR. POSITION** with the MENU ◁/▷ key. 6 Adjust **5. HOR POSITION** to make "**C=D**" with the MENU ◁/▷ key. 7. Press the DISPLAY key twice to return to the normal screen.

VSM PRESET SETTING

Item	Measuring instrument	Test point	Adjustment part	Description
Setting of VSM PRESET	**Remote control unit**		**1. TINT** **2. COLOUR** **3. BRIGHT** **4. CONT** **5. SHARP**	1. Select **4. VSM PRESET** from the SERVICE MENU. 2. Select BRIGHT with the PICTURE MODE key. 3. Adjust the MENU ▽/△ key and MENU ◁/▷ key to reset the set values of **1. TINT – 5. SHARP** to the values shown in the table. 4. Respectively select the VSM PRESET mode for SOFT and STANDARD, and make similar adjustment as in 3 above. 5. Press the DISPLAY key twice to return to the normal screen.

SUB MENU 4. VSM PRESET

```
BRIGHT
TINT        **
COLOUR      **
BRIGHT      **
CONT        **
SHARP       **

MENU ▲▼: SELECT
MENU –/+: OPERATE   DISPLAY : EXIT
```

[Setting Values for SUB MENU 4. VSM PRESET]

VSM preset / VSM mode / Setting item	BRIGHT	STANDARD	SOFT
1. TINT SETTING VALUE	15	←	←
2. COLOUR SETTING VALUE	15	←	←
3. BRIGHT SETTING VALUE	15	←	←
4. CONT SETTING VALUE	30	15	11
5. SHARP SETTING VALUE	15	←	0

PRESET SETTING

● Do not adjust 5. PRESET in the SERVICE MENU as it requires no adjustment.

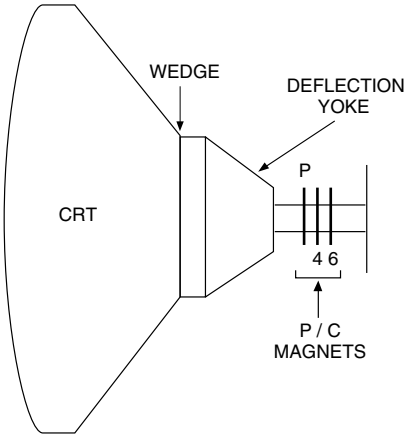
[SUB MENU 5. PRESET]

	Setting item	Variable range	Initial setting value			
			AV-20N83/BK	AV-21D83/BK	AV-21D83/VT	AV-20N83/VT
1	PSNS	0/1	0	←	←	←
2	ACL	0/1	0	←	←	←
3	MUS	0/1	0	←	←	←
4	MAT	0/1	0	←	←	←
5	FCO	0/1	0	←	←	←
6	BPS	0/1	0	←	←	←
7	IFLH	0/1	0	←	←	←
8	VID	0/1	0	←	←	←
9	STM	0/1	0	←	←	←
10	AFCW	0/1	0	←	←	←
11	VSW	0/1	0	←	←	←
12	FFI	0/1	0	←	←	←
13	AGC	00/01/10/11	01	←	←	←
14	CL	50 – 95	83	←	←	←
15	AKB	0/1	0	←	←	←
16	HBL	0/1	0	←	←	←
17	BKS	0/1	1	←	←	←
18	READ STATUS	—	—	←	←	←
19	VNR	00 – 63	25	←	←	←
20	PEAK	0 – 3	1	←	←	←
21	IVG	0/1	1	←	←	←
22	WPL	0 – F	5	←	←	←
23	SOFT CLIPPER	0 – 3	0	←	←	←
24	IF PLL OFFSET	0 – 63	32	←	←	←
25	OVERSHOOT	0 – 3	3	←	←	←
26	HCO	0/1	0	←	←	←
27	HP2	0/1	0	←	←	←
28	AI VOLUME	00/01/10/11	01	←	←	←
29	SUB BASS 3D	–3 – +3	+2	←	←	←
30	SUB TREBLE 3D	–3 – +3	+1	+3	←	←
31	CCCLOOP	0 – 4	0	←	←	←

PURITY ADJUSTMENT

Note: The final adjustment of CONVERGENCE must be done after the FOCUS adjustment. (CONVERGENCE is changed by FOCUS adjustment.)
When makes difference by FOCUS adjustment, should be reconfirming PURITY adjustment.

1. Demagnetize CRT with the demagnetizer.
2. Loosen the retainer screw of the deflection yoke.
3. Remove the wedges.
4. Input a green raster signal from the signal generator, and turn the screen to green raster.
5. Move the deflection yoke backward.
6. Bring the long lug of the purity magnets on the short lug and position them horizontally. (Fig. 2)
7. Adjust the gap between two lugs so that the GREEN RASTER will come into the centre of the screen. (Fig. 3)
8. Move the deflection yoke forward, and fix the position of the deflection yoke so that the whole screen will become green.
9. Insert the wedge to the top side of the deflection yoke so that it will not move.
10. Input a crosshatch signal.
11. Verify that the screen is horizontal.
12. Input red and blue raster signals, and make sure that purity is properly adjusted.



• P/C MAGNETS

P : PURITY MAGNET
4 : 4 POLES (convergence magnets)
6 : 6 POLES (convergence magnets)

Fig. 1

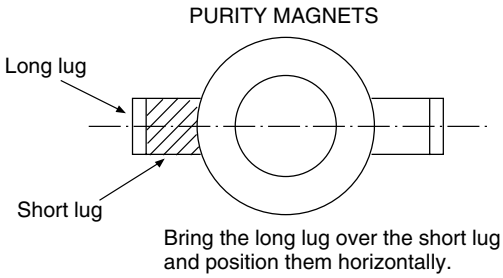


Fig. 2

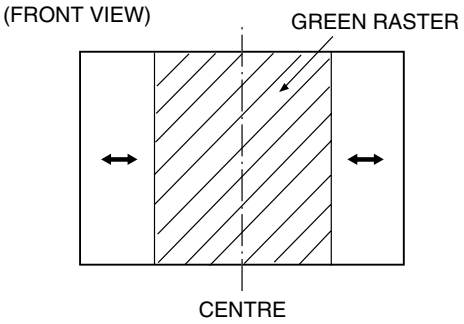


Fig. 3

CONVERGENCE ADJUSTMENTS

STATIC CONVERGENCE ADJUSTMENT

1. Input a crosshatch signal.
2. Using 4-pole convergence magnets, overlap the red and blue lines in the centre of the screen (Fig. 4) and turn them to magenta (red/blue).
3. Using 6-pole convergence magnets, overlap the magenta(red/blue) and green lines in the centre of the screen and turn them to white.
4. Repeat 2 and 3 above, and make best convergence.

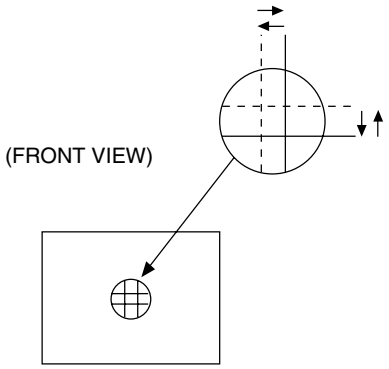


Fig. 4

DYNAMIC CONVERGENCE ADJUSTMENT

1. Move the deflection yoke up and down and overlap the lines in the periphery. (Fig. 5)
2. Move the deflection yoke left to right and overlap the lines in the periphery. (Fig. 6)
3. Repeat 1 and 2 above, and make best convergence.

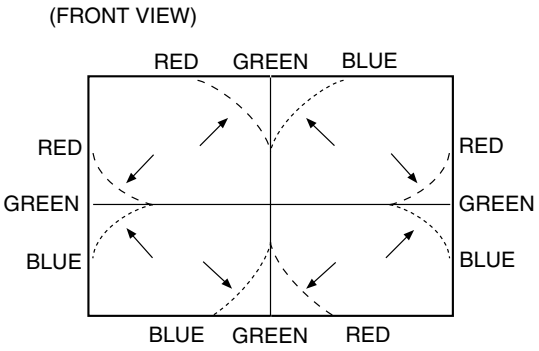


Fig. 5

- After adjustment, fix the wedge at the original position.
  Fasten the retainer screw of the deflection yoke.
  Fix the P/C magnets with glue.

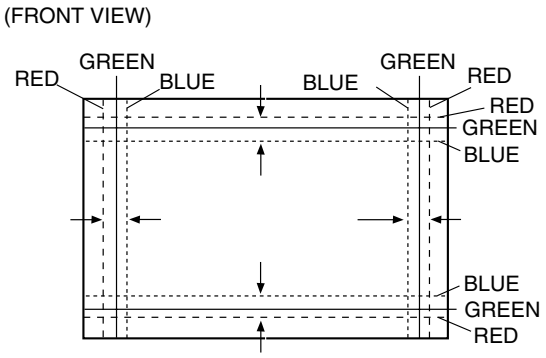


Fig. 6

SELF-CHECK FUNCTIONS

1. Outline

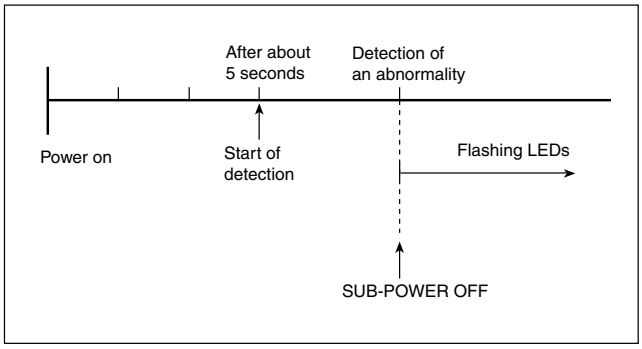
This model has self-check functions given below.When an abnormality has been detected,the SUB POWER is turned off and both ECO and ON TIMER LEDs flash to inform of the failure.An abnormality is detected by the signal input state of the control line connected to the microcomputer.

2. Self check items

Check item	Details of detection	Method of detection	State of abnormality
Over-current protection	An over-current on the low B line is detected.	The main microcomputer detects the possible abnormality at 30-msec.intervals and judges the results in every 16 time. Of the 16 times, if NG is detected more than 9 times, it is judged that there is an abnormality.	When an abnormality has been detected, the SUB-POWER is turned off. While the SUB-POWER is being turned off, the POWER key on the remote control unit is not operational until the power cord is taken out and put in again.
CRT NECK protection	Operation of CRT NECK protection circuit.	DITTO	DITTO

3. Self check indicating function

When an abnormality has been detected at about 5 seconds after the power is turned on,the SUB POWER is turned off immediately and the LEDs flash.



[Indication by the LEDs]

Item	LEDs flashing intervals	Priority of detection
① Over-current protection	At 0.2-second intervals	1
② CRT NECK protection	At 1-second intervals	2

Note: In case of ① + ②, the item ① is indicated.

SERVICE NOTE :

JVC
VICTOR COMPANY OF JAPAN, LIMITED
HOME AV NETWORK BUSINESS UNIT 12,3-chome,Moriya-cho,Kanagawa-ku,Yokohama,Kanagawa-prefecture,221-8528,Japan

AV20N83BK-BK #4
AV21D83BK-BK #4
AV21D83VT-CK #4
AV20N83VT-CK #4

Printed in Japan
0212 WPC

PARTS LIST

CAUTION

- The parts identified by the ⚠ symbol are important for the safety . Whenever replacing these parts, be sure to use specified ones to secure the safety .
- The parts not indicated in this Parts List and those which are filled with lines --- in the Parts No. columns will not be supplied .
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied .

ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	CH CAP.	Chip Capacitor
HV R	High Voltage Resistor	HV CAP.	High Voltage Capacitor
MF R	Metal Film Resistor	MF CAP.	Metalized Film Capacitor
MG R	Metal Glazed Resistor	MM CAP.	Metalized Mylar Capacitor
MP R	Metal Plate Resistor	MP CAP.	Metalized Polystyrol Capacitor
OM R	Metal Oxide Film Resistor	PP CAP.	Polypropylene Capacitor
CMF R	Coating Metal Film Resistor	PS CAP.	Polystyrol Capacitor
UNF R	Non-Flammable Resistor	TF CAP.	Thin Film Capacitor
CH V R	Chip Variable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH MG R	Chip Metal Glazed Resistor	TAN. CAP.	Tantalum Capacitor
COMP. R	Composition Resistor	CH C CAP.	Chip Ceramic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
		CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

RESISTORS									
F	G	J	K	M	N	R	H	Z	P
±1%	±2%	±5%	±10%	±20%	±30%	+30% -10%	+50% -10%	+80% -20%	+100% 0%

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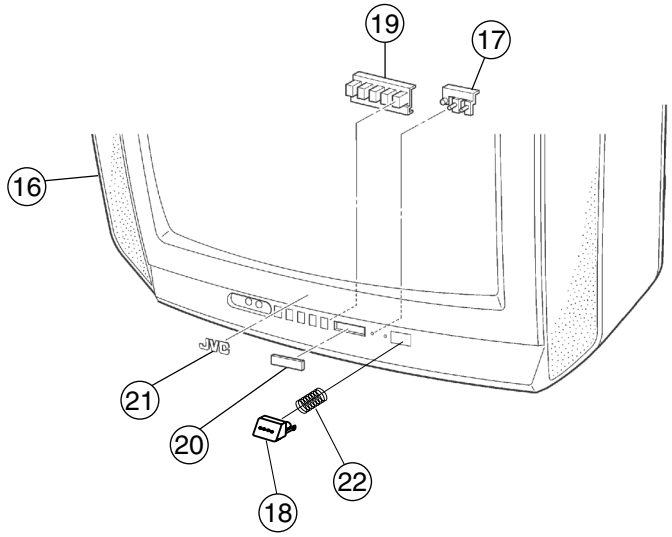
USING P.W. BOARD & REMOTE CONTROL UNIT

P.W.B ASS'Y \ Model	AV-20N83/BK	AV-21D83/BK	AV-21D83/VT	AV-20N83/VT
MAIN PWB (include CRT SOCKET PWB)	SCH-1090A-BK	SCH-1122A-BK	SCH-1315A-CK	SCH-1316A-CK
REMOTE CONTROL UNIT	RM-C1017-1H	←	RM-C1027-1H	←

EXPLODED VIEW PARTS LIST -I [AV-20N83/BK, AV-20N83/VT]

⚠	Ref.No.	Part No.	Part Name	Description	Local
	16	LC10438-028A-H	FRONT CABI	[AV-20N83/BK]	
	16	LC10438-034A-HK	FRONT CABI	[AV-20N83/VT]	
	17	LC30665-001A-H	REMOCON LENS		
	18	LC30663-003A-H	POWER KNOB		
	19	LC20318-003A-H	CONTROL KNOB		
	20	LC30664-001B-H	E.E. WINDOW		
	21	CM48006-007-C	JVC MARK		
	22	CM35235-003-H	SPRING		

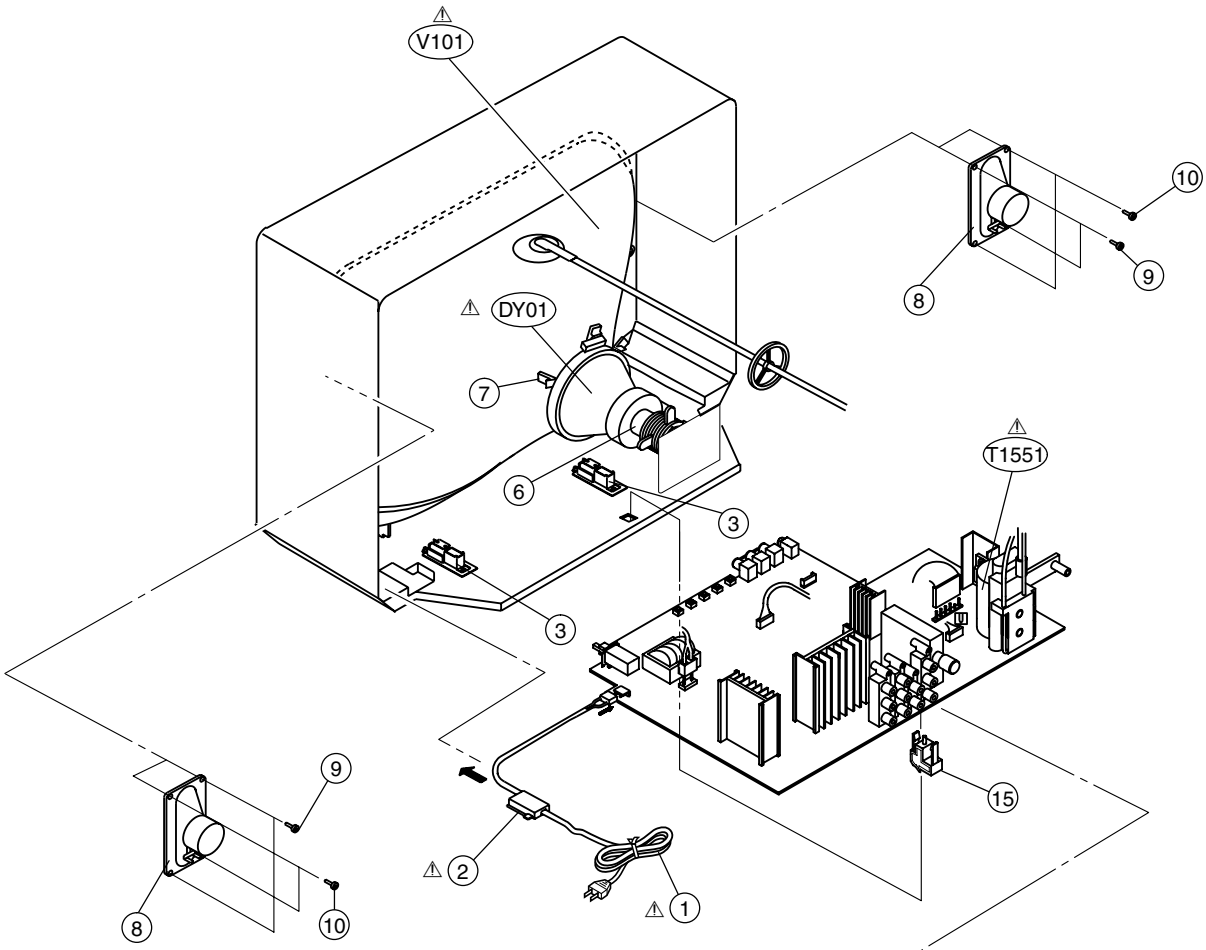
EXPLODED VIEW -I [AV-20N83/BK, AV-20N83/VT]

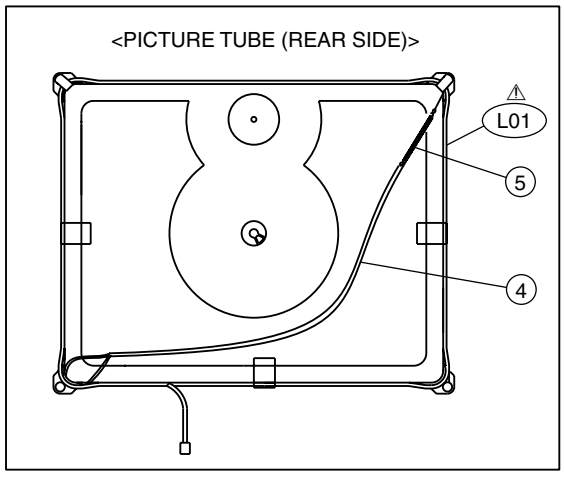


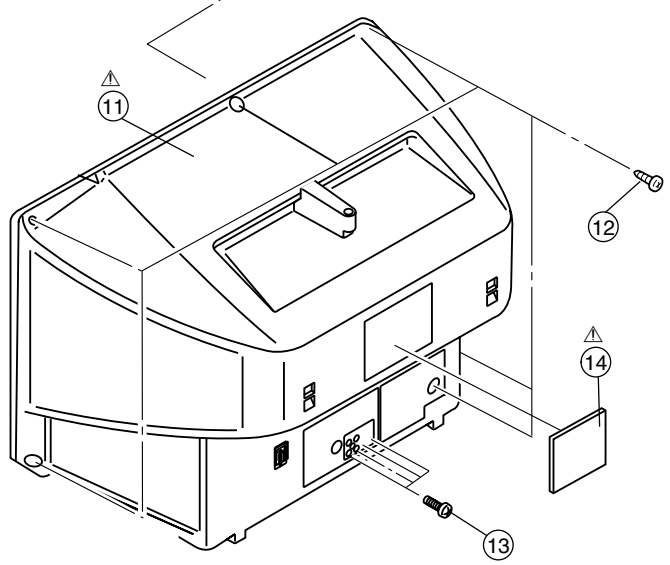
EXPLODED VIEW PARTS LIST -Ⅱ [AV-20N83/BK, AV-20N83/VT]

⚠	Ref.No.	Part No.	Part Name	Description	Local
⚠	V01	A48LWX10X	PICTURE TUBE	[AV-20N83/BK]	
⚠	V01	A48JLL91X01	PICTURE TUBE (ITC)	Inc. DEF YOKE [AV-20N83/VT]	
⚠	L01	QQW0156-001	DEG COIL		
⚠	DY01	QQD0081-001	DEFLECTION YOKE	[AV-20N83/BK]	
⚠	T1551	QQH0143-001	FBT	[AV-20N83/BK]	
⚠	T1551	QQH0142-001	FBT	[AV-20N83/VT]	
⚠	1	QMPR420-165-K2	POWER CORD	[AV-20N83/BK]	
⚠	1	QMPR400-200-JC	POWER CORD	[AV-20N83/VT]	
⚠	2	CM47005-A01-H	CORD CLAMP		
	3	CM36623-B01-H	CHASSIS RAIL	(X2)	
	4	WJY0008-002A	BRAIDED ASS'Y		
	5	A48457-3-H	SPRING		
	6	A75034-B	PC MAGNET	[AV-20N83/BK]	
	7	CE40764-00A	WEDGE ASS'Y	(X3) [AV-20N83/BK]	
	8	QAS0101-001	SPEAKER	(X2) SP01, SP02	
	9	QYSBSF4012Z	TAPPING SCREW	(X4)	
	10	QYSBSF4012Z	TAPPING SCREW	(X4) [AV-20N83/BK]	
⚠	11	LC10448-005A-H	REAR COVER	[AV-20N83/BK]	
⚠	11	LC10448-005A-HK	REAR COVER	[AV-20N83/VT]	
	12	QYSBSFG4016Z	TAPPING SCREW	(X6)	
	13	QYSBSF3010Z	TAPPING SCREW	(X4)	
⚠	14	GG20029-001A-H	RATING LABEL		
	15	CM48144-002-H	PB STOPPER		

EXPLODED VIEW -Ⅱ [AV-20N83/BK, AV-20N83/VT]



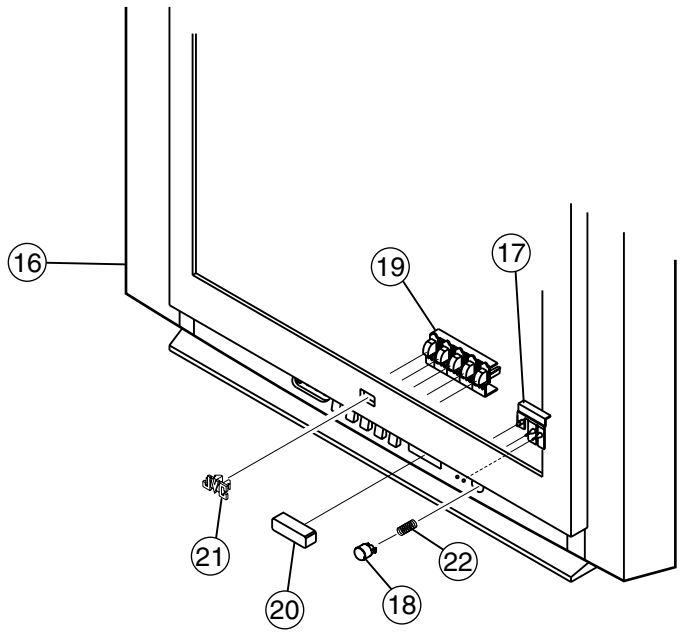




EXPLODED VIEW PARTS LIST -Ⅲ [AV-21D83/BK, AV-21D83/VT]

⚠	Ref.No.	Part No.	Part Name	Description	Local
	16	LC11129-024A-H	FRONT CABI	[AV-21D83/BK]	
	16	LC11129-025A-HK	FRONT CABI	[AV-21D83/VT]	
	17	GG30021-002A-H	LED LENS		
	18	GG30019-003A-H	POWER KNOB		
	19	GG20006-003A-H	CONTROL KNOB		
	20	GG30020-001A-H	E.E. WINDOW		
	21	GG40023-001A-H	JVC MARK		
	22	CM35235-003-H	SPRING		

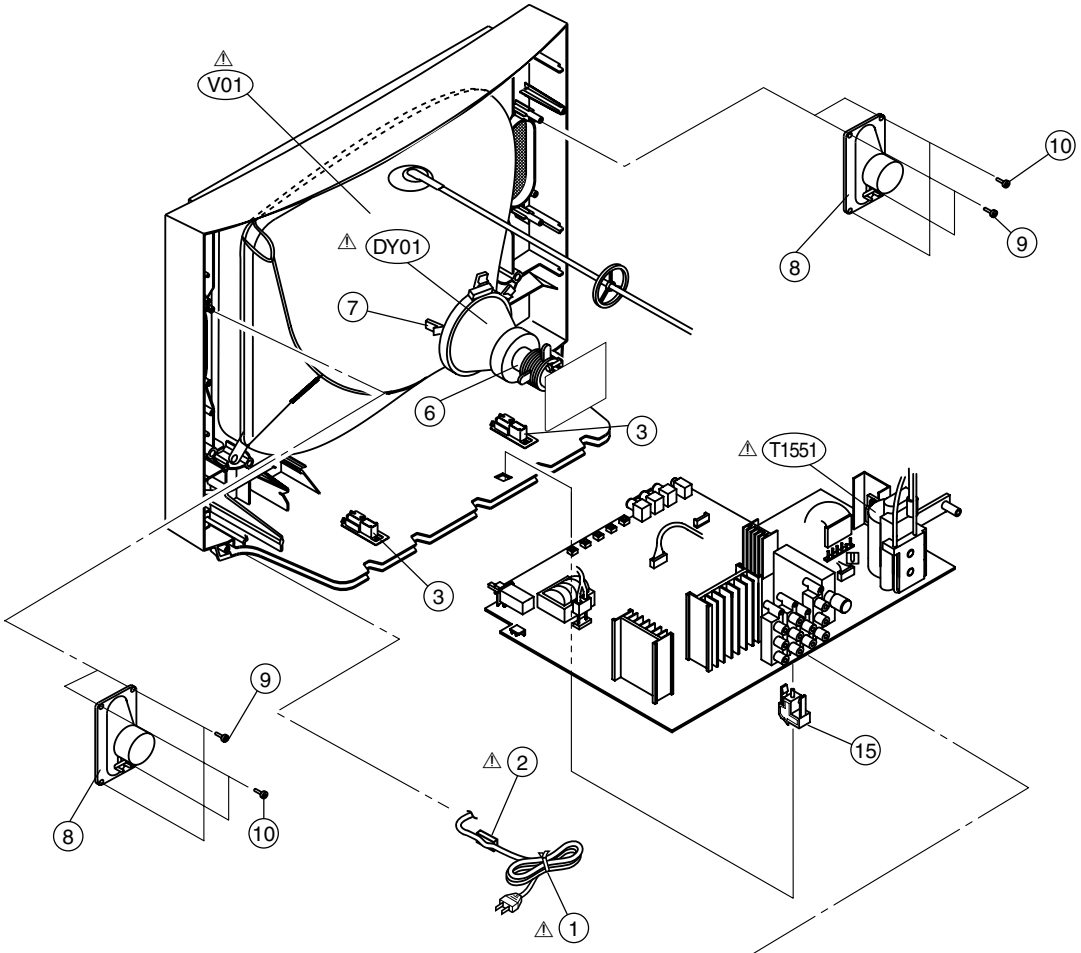
EXPLODED VIEW -Ⅲ [AV-21D83/BK, AV-21D83/VT]

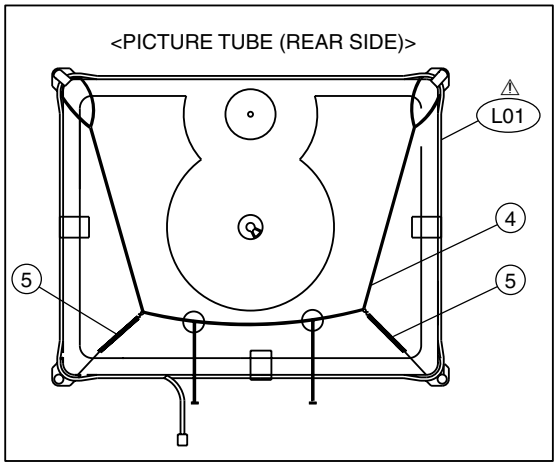


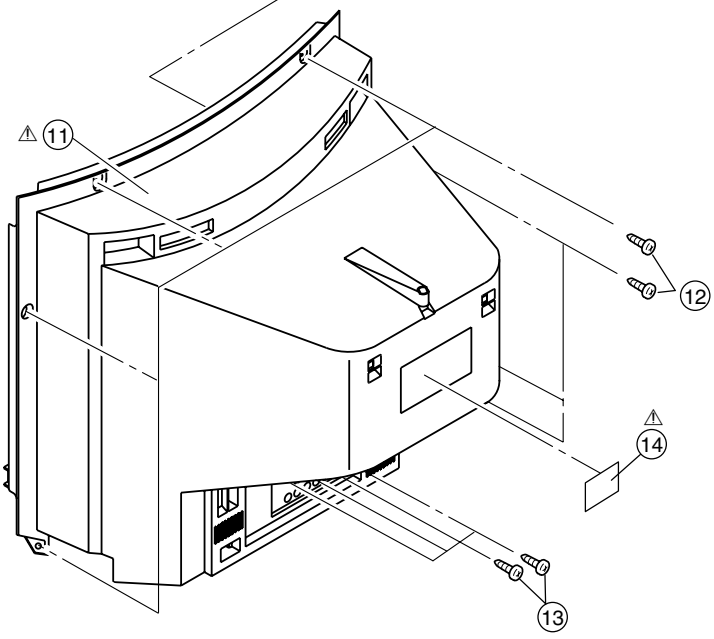
EXPLODED VIEW PARTS LIST -Ⅳ [AV-21D83/BK, AV-21D83/VT]

⚠	Ref.No.	Part No.	Part Name	Description	Local
⚠	V01	A51LMV10X	PICTURE TUBE	[AV-21D83/BK]	
⚠	V01	A51JSW51X07	PICTURE TUBE (ITC)	Inc. DEF YOKE [AV-21D83/VT]	
⚠	L01	QQW0157-001	DEG COIL		
⚠	DY01	CE20336-00A	DEFLECTION YOKE	[AV-21D83/BK]	
⚠	T1551	QQH0142-001	FBT		
⚠	1	QMPR420-165-K2	POWER CORD	[AV-21D83/BK]	
⚠	1	QMPR400-200-JC	POWER CORD	[AV-21D83/VT]	
⚠	2	CM47005-A01-H	CORD CLAMP		
	3	CM36623-B01-H	CHASSIS RAIL	(X2)	
	4	CHGB0028-0A	BRAIDED ASS'Y		
	5	A48457-3-H	SPRING	(X2)	
	6	A75034-B	PC MAGNET	[AV-21D83/BK]	
	7	CE42728-00A	WEDGE ASS'Y	(X3) [AV-21D83/BK]	
	8	QAS0101-001	SPEAKER	(X2) SP01, SP02	
	9	QYSBSB4012Z	TAPPING SCREW	(X4)	
	10	QYSBSB4012Z	TAPPING SCREW	(X4) [AV-21D83/VT]	
⚠	11	GG10130-001A-H	REAR COVER	[AV-21D83/BK]	
⚠	11	GG10130-011A-HK	REAR COVER	[AV-21D83/VT]	
	12	QYSBSFG4016Z	TAPPING SCREW	(X7)	
	13	QYSBSF3010Z	TAPPING SCREW	(X4)	
⚠	14	GG20029-001A-H	RATING LABEL	[AV-21D83/BK]	
⚠	14	GG20016-025A-E	RATING LABEL	[AV-21D83/VT]	
	15	CM48144-002-H	PB STOPPER		

EXPLODED VIEW -Ⅳ [AV-21D83/BK, AV-21D83/VT]







PRINTED WIRING BOARD PARTS LIST [AV-20N83/BK]

MAIN PW BOARD ASS'Y (SCH-1090A-BK)

⚠	Symbol No.	Part No.	Part Name	Description	Local
	RESISTOR				
	R1001	NRSA63J-221X	MG R	220Ω 1/16W	J
	R1002	NRSA63J-221X	MG R	220Ω 1/16W	J
	R1003	NRSA63J-392X	MG R	3.9kΩ 1/16W	J
	R1004	NRSA63J-221X	MG R	220Ω 1/16W	J
	R1005	QQR1214-001Y	FERRITE BEADS		
	R1006	NRSA63J-273X	MG R	27kΩ 1/16W	J
	R1007	NRSA63J-750X	MG R	75Ω 1/16W	J
	R1101	NRSA63J-100X	MG R	10Ω 1/16W	J
	R1102	NRSA63J-682X	MG R	6.8kΩ 1/16W	J
	R1103	NRSA63J-272X	MG R	2.7kΩ 1/16W	J
	R1104	NRSA63J-181X	MG R	180Ω 1/16W	J
	R1105	NRSA63J-220X	MG R	22Ω 1/16W	J
	R1106	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1107	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R1108	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1109	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1111	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1117	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1130	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R1131	NRSA63J-471X	MG R	470Ω 1/16W	J
	R1132	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1133	NRSA63J-152X	MG R	1.5kΩ 1/16W	J
	R1134	NRSA63J-182X	MG R	1.8kΩ 1/16W	J
	R1135	NRSA63J-561X	MG R	560Ω 1/16W	J
	R1136	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R1137	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1138	NRSA63J-471X	MG R	470Ω 1/16W	J
	R1139	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1140	NRSA63J-152X	MG R	1.5kΩ 1/16W	J
	R1141	NRSA63J-182X	MG R	1.8kΩ 1/16W	J
	R1142	NRSA63J-561X	MG R	560Ω 1/16W	J
	R1143	NRSA63J-471X	MG R	470Ω 1/16W	J
	R1144	NRSA63J-220X	MG R	22Ω 1/16W	J
	R1145	NRSA63J-821X	MG R	820Ω 1/16W	J
	R1146	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1147	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1148	NRSA63J-332X	MG R	3.3kΩ 1/16W	J
	R1301	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1302	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1303	NRSA63J-562X	MG R	5.6kΩ 1/16W	J
	R1304	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1305	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1306	NRSA63J-562X	MG R	5.6kΩ 1/16W	J
	R1351	NRSA63J-151X	MG R	150Ω 1/16W	J
	R1352	QRL029J-123	OM R	12kΩ 2W	J
	R1353	NRSA63J-182X	MG R	1.8kΩ 1/16W	J
	R1354	NRSA63J-331X	MG R	330Ω 1/16W	J
	R1355	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1356	QRE121J-102Y	C R	1kΩ 1/2W	J
	R1357	QRZ0107-152Z	C R	1.5kΩ 1W	K
	R1358	QRE121J-272Y	C R	2.7kΩ 1/2W	J
	R1359	QRE121J-561Y	C R	560Ω 1/2W	J
	R1361	NRSA63J-151X	MG R	150Ω 1/16W	J
	R1362	QRL029J-123	OM R	12kΩ 2W	J
	R1363	NRSA63J-182X	MG R	1.8kΩ 1/16W	J
	R1364	NRSA63J-331X	MG R	330Ω 1/16W	J
	R1365	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1366	QRE121J-102Y	C R	1kΩ 1/2W	J
	R1367	QRZ0107-152Z	C R	1.5kΩ 1W	K
	R1368	NRSA63J-332X	MG R	3.3kΩ 1/16W	J
⚠	R1369	QRZ9017-150	F R	15Ω 1/4W	J
	R1370	NRSA63J-151X	MG R	150Ω 1/16W	J
	R1371	QRL029J-123	OM R	12kΩ 2W	J
	R1372	NRSA63J-182X	MG R	1.8kΩ 1/16W	J
	R1373	NRSA63J-331X	MG R	330Ω 1/16W	J
	R1374	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1375	QRE121J-102Y	C R	1kΩ 1/2W	J
	R1376	QRZ0107-152Z	C R	1.5kΩ 1W	K
	R1377	NRSA63J-330X	MG R	33Ω 1/16W	J
	R1378	NRSA63J-223X	MG R	22kΩ 1/16W	J
	R1379	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1383	QRE121J-394Y	C R	390kΩ 1/2W	J

⚠	Symbol No.	Part No.	Part Name	Description	Local
	RESISTOR				
	R1384	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1385	QRE141J-393Y	C R	39kΩ 1/4W	J
	R1401	NRSA63J-224X	MG R	220kΩ 1/16W	J
	R1403	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1405	NRSA63J-682X	MG R	6.8kΩ 1/16W	J
	R1406	NRSA63J-123X	MG R	12kΩ 1/16W	J
	R1408	NRSA63J-682X	MG R	6.8kΩ 1/16W	J
	R1410	NRSA63J-123X	MG R	12kΩ 1/16W	J
	R1411	QRG01GJ-221	OM R	220Ω 1W	J
	R1412	QRE121J-1R0Y	C R	1Ω 1/2W	J
	R1413	QRX01GJ-3R9	MF R	3.9Ω 1W	J
	R1414	QRE121J-680Y	C R	68Ω 1/2W	J
	R1425	NRSA63J-683X	MG R	68kΩ 1/16W	J
	R1521	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1522	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1524	QRL039J-220	OM R	22Ω 3W	J
	R1526	QRG01GJ-181	OM R	180Ω 1W	J
	R1527	QRL039J-103	OM R	10kΩ 3W	J
	R1528	QRX029J-R47	MF R	0.47Ω 2W	J
	R1529	QRX029J-R47	MF R	0.47Ω 2W	J
	R1531	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
⚠	R1532	QRZ9017-4R7	F R	4.7Ω 1/4W	J
⚠	R1540	QRZ9021-4R7	F R	4.7Ω 1W	J
	R1541	QRE121J-124Y	C R	120kΩ 1/2W	J
	R1542	QRE121J-334Y	C R	330kΩ 1/2W	J
	R1545	QRE121J-220Y	C R	22Ω 1/2W	J
	R1546	QRE121J-822Y	C R	8.2kΩ 1/2W	J
	R1591	QRE121J-222Y	C R	2.2kΩ 1/2W	J
	R1594	QRE121J-223Y	C R	22kΩ 1/2W	J
	R1595	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1596	QRT029J-1R8	MF R	1.8Ω 2W	J
	R1597	QRT029J-1R5	MF R	1.5Ω 2W	J
	R1621	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1622	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1624	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1625	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1627	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1650	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1651	NRSA63J-153X	MG R	15kΩ 1/16W	J
	R1654	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1655	NRSA63J-153X	MG R	15kΩ 1/16W	J
	R1658	QRE121J-2R2Y	C R	2.2Ω 1/2W	J
	R1659	QRE121J-2R2Y	C R	2.2Ω 1/2W	J
	R1660	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1661	NRSA63J-683X	MG R	68kΩ 1/16W	J
	R1662	NRSA63J-333X	MG R	33kΩ 1/16W	J
	R1663	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1664	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1686	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1687	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1688	NRSA63J-273X	MG R	27kΩ 1/16W	J
	R1690	NRSA63J-104X	MG R	100kΩ 1/16W	J
	R1698	NRSA63J-104X	MG R	100kΩ 1/16W	J
	R1699	NRSA63J-104X	MG R	100kΩ 1/16W	J
	R1701	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1702	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1703	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1704	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1705	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1706	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1707	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R1708	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R1709	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R1710	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R1711	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1712	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1713	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1714	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1715	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1716	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1717	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1718	NRSA63J-221X	MG R	220Ω 1/16W	J

⚠	Symbol No.	Part No.	Part Name	Description	Local
	RESISTOR				
	R1719	NRSA63J-221X	MG R	220Ω 1/16W	J
	R1720	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1721	NRSA63J-221X	MG R	220Ω 1/16W	J
	R1722	NRSA63J-221X	MG R	220Ω 1/16W	J
	R1723	NRSA63J-221X	MG R	220Ω 1/16W	J
	R1724	NRSA63J-221X	MG R	220Ω 1/16W	J
	R1725	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1726	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R1727	NRSA63J-104X	MG R	100kΩ 1/16W	J
	R1728	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1729	NRSA63J-470X	MG R	47Ω 1/16W	J
	R1730	NRSA63J-223X	MG R	22kΩ 1/16W	J
	R1731	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1732	NRSA02F-393X	MG R	39kΩ 1/10W	F
	R1733	NRSA63J-273X	MG R	27kΩ 1/16W	J
	R1734	NRSA63J-391X	MG R	390Ω 1/16W	J
	R1735	NRSA63J-104X	MG R	100kΩ 1/16W	J
	R1736	NRSA63J-333X	MG R	33kΩ 1/16W	J
	R1737	NRSA63J-272X	MG R	2.7kΩ 1/16W	J
	R1738	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1739	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1740	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1741	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1742	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1743	NRSA63J-681X	MG R	680Ω 1/16W	J
	R1744	NRSA63J-561X	MG R	560Ω 1/16W	J
	R1745	NRSA63J-105X	MG R	1MΩ 1/16W	J
	R1746	NRSA63J-333X	MG R	33kΩ 1/16W	J
	R1747	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1748	NRSA02J-475X	MG R	4.7MΩ 1/10W	J
	R1749	NRSA02J-475X	MG R	4.7MΩ 1/10W	J
	R1750	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1755	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1756	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1757	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1758	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1760	NRSA63J-682X	MG R	6.8kΩ 1/16W	J
	R1770	QRE121J-271Y	C R	270Ω 1/2W	J
	R1771	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1772	QRE121J-271Y	C R	270Ω 1/2W	J
	R1773	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1775	NRSA63J-332X	MG R	3.3kΩ 1/16W	J
	R1776	NRSA63J-392X	MG R	3.9kΩ 1/16W	J
	R1777	NRSA63J-682X	MG R	6.8kΩ 1/16W	J
	R1779	NRSA63J-272X	MG R	2.7kΩ 1/16W	J
	R1780	NRSA63J-471X	MG R	470Ω 1/16W	J
	R1781	NRSA63J-122X	MG R	1.2kΩ 1/16W	J
	R1782	NRSA63J-181X	MG R	180Ω 1/16W	J
	R1783	NRSA63J-221X	MG R	220Ω 1/16W	J
	R1784	NRSA63J-331X	MG R	330Ω 1/16W	J
	R1785	NRSA63J-471X	MG R	470Ω 1/16W	J
	R1786	NRSA63J-202X	MG R	2kΩ 1/16W	J
	R1803	NRSA63J-333X	MG R	33kΩ 1/16W	J
	R1804	NRSA63J-750X	MG R	75Ω 1/16W	J
	R1805	NRSA63J-750X	MG R	75Ω 1/16W	J
	R1806	NRSA63J-750X	MG R	75Ω 1/16W	J
	R1807	NRSA63J-750X	MG R	75Ω 1/16W	J
	R1808	NRSA63J-823X	MG R	82kΩ 1/16W	J
	R1809	NRSA63J-391X	MG R	390Ω 1/16W	J
	R1810	NRSA63J-823X	MG R	82kΩ 1/16W	J
	R1811	NRSA63J-391X	MG R	390Ω 1/16W	J
	R1812	NRSA63J-104X	MG R	100kΩ 1/16W	J
	R1813	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1815	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1818	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1820	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1821	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1823	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1824	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1826	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1829	NRSA63J-750X	MG R	75Ω 1/16W	J
	R1830	NRSA63J-222X	MG R	2.2kΩ 1/16W	J

⚠	Symbol No.	Part No.	Part Name	Description	Local
	RESISTOR				
	R1831	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1832	NRSA63J-122X	MG R	1.2kΩ 1/16W	J
	R1833	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1834	NRSA63J-562X	MG R	5.6kΩ 1/16W	J
	R1835	NRSA63J-562X	MG R	5.6kΩ 1/16W	J
	R1836	NRSA63J-750X	MG R	75Ω 1/16W	J
	R1837	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1838	QRK126J-121X	UNF R	120Ω 1/2W	J
	R1839	QRE121J-221Y	C R	220Ω 1/2W	J
	R1840	QRE121J-221Y	C R	220Ω 1/2W	J
	R1841	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1842	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1843	NRSA63J-821X	MG R	820Ω 1/16W	J
	R1844	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1845	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1846	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1847	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1848	NRSA63J-471X	MG R	470Ω 1/16W	J
	R1849	NRSA63J-221X	MG R	220Ω 1/16W	J
	R1880	NRSA63J-202X	MG R	2kΩ 1/16W	J
	R1881	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1882	NRSA63J-471X	MG R	470Ω 1/16W	J
	R1883	NRSA63J-181X	MG R	180Ω 1/16W	J
	R1902	QRF154K-2R2	UNF R	2.2Ω 15W	K
	R1904	QRE121J-681Y	C R	680Ω 1/2W	J
	R1905	QRM034J-R22	MP R	0.22Ω 3W	J
	R1907	NRSA63J-563X	MG R	56kΩ 1/16W	J
	R1908	QRL039J-333	OM R	33kΩ 3W	J
	R1909	QRE121J-474Y	C R	470kΩ 1/2W	J
	R1910	QRE121J-152Y	C R	1.5kΩ 1/2W	J
	R1911	QRE121J-562Y	C R	5.6kΩ 1/2W	J
	R1912	NRSA63J-122X	MG R	1.2kΩ 1/16W	J
	R1913	QRE121J-120Y	C R	12Ω 1/2W	J
⚠	R1915	QRZ0111-474	C R	470kΩ 1W	K
	R1952	NRSA63J-332X	MG R	3.3kΩ 1/16W	J
	R1953	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1957	QRE121J-6R8Y	C R	6.8Ω 1/2W	J
	R1960	NRSA63J-391X	MG R	390Ω 1/16W	J
	R1961	QRL029J-183	OM R	18kΩ 2W	J
	R1962	NRSA63J-561X	MG R	560Ω 1/16W	J
	R1963	QRE121J-103Y	C R	10kΩ 1/2W	J
	R1964	NRSA63J-473X	MG R	47kΩ 1/16W	J
	R1965	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1966	NRSA63J-682X	MG R	6.8kΩ 1/16W	J
	R1967	NRSA63J-473X	MG R	47kΩ 1/16W	J
	R1970	NRSA63J-153X	MG R	15kΩ 1/16W	J
	R1971	NRSA63J-183X	MG R	18kΩ 1/16W	J
	R1972	NRSA63J-391X	MG R	390Ω 1/16W	J
⚠	R1991	QRZ9046-825Z	C R	8.2MΩ 1W	J

	Symbol No.	Part No.	Part Name	Description	Local
	CAPACITOR				
	C1001	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1002	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1003	QFV71HJ-104Z	MF CAP.	0.1μF 50V	J
	C1004	QETN1CM-477Z	E CAP.	470μF 16V	M
	C1005	NCB31HK-222X	C CAP.	2200pF 50V	K
	C1006	QETN1CM-336Z	E CAP.	33μF 16V	M
	C1007	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1101	NCB31HK-472X	C CAP.	4700pF 50V	K
	C1102	NCB31HK-472X	C CAP.	4700pF 50V	K
	C1103	NCB31HK-472X	C CAP.	4700pF 50V	K
	C1104	NCB31HK-472X	C CAP.	4700pF 50V	K
	C1105	NCB31HK-472X	C CAP.	4700pF 50V	K
	C1106	NDC21HJ-180X	C CAP.	18pF 50V	J
	C1107	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1109	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1130	NCB31HK-103X	C CAP.	0.01μF 50V	K

⚠	Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR					
	C1131	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1132	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1133	QETN1CM-107Z	E CAP.	100μF 16V	M
	C1134	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1135	QETN1AM-477Z	E CAP.	470μF 10V	M
	C1136	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1137	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1138	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1140	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1141	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1142	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1143	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1144	NCB31HK-223X	C CAP.	0.022μF 50V	K
	C1308	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1310	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	C1350	NDC21HJ-471X	C CAP.	470pF 50V	J
	C1351	NDC31HJ-681X	C CAP.	680pF 50V	J
	C1352	QETN2EM-475Z	E CAP.	4.7μF 250V	M
	C1353	QETN1HM-107Z	E CAP.	100μF 50V	M
	C1354	QETN1HM-105Z	E CAP.	1μF 50V	M
	C1360	NDC21HJ-471X	C CAP.	470pF 50V	J
	C1361	NDC31HJ-681X	C CAP.	680pF 50V	J
	C1370	NDC21HJ-471X	C CAP.	470pF 50V	J
	C1371	NDC31HJ-821X	C CAP.	820pF 50V	J
	C1372	NRSA63J-273X	MG R	27kΩ 1/16W	J
	C1374	QCZ0364-222	C CAP.	2200pF	
	C1375	QETN1CM-477Z	E CAP.	470μF 16V	M
	C1401	QETN1HM-105Z	E CAP.	1μF 50V	M
	C1402	QCB31HK-682Z	C CAP.	6800pF 50V	K
	C1403	QEHR1VM-227Z	E CAP.	220μF 35V	M
	C1406	QFLC2AJ-683Z	M CAP.	0.068μF 100V	J
	C1407	QCS32HJ-180Z	C CAP.	18pF 500V	J
	C1408	QFV71HJ-184Z	MF CAP.	0.18μF 50V	J
	C1411	NCF21HZ-334X	C CAP.	0.33μF 50V	Z
	C1412	NCF21HZ-334X	C CAP.	0.33μF 50V	Z
	C1413	QFLC2AJ-563Z	M CAP.	0.056μF 100V	J
	C1422	QEHQ1VM-108	E CAP.	1000μF 35V	M
	C1521	QETN1VM-476Z	E CAP.	47μF 35V	M
	C1522	QFLC1HJ-332Z	M CAP.	3300pF 50V	J
	C1523	QFLC1HJ-223Z	M CAP.	0.022μF 50V	J
	C1524	QFZ0200-103	MPP CAP.	0.01μF 1.5kVH±3%	
	C1527	QFZ0199-474	MPP CAP.	0.47μF AC250V	J
	C1529	QEHR2EM-475Z	E CAP.	4.7μF 250V	M
	C1531	QEHR1EM-108Z	E CAP.	1000μF 25V	M
	C1533	QEHR1EM-108Z	E CAP.	1000μF 25V	M
	C1535	QCB32HK-101Z	C CAP.	100pF 500V	K
	C1536	QFLC1HJ-103Z	M CAP.	0.01μF 50V	J
	C1540	QFV71HJ-104Z	MF CAP.	0.1μF 50V	J
	C1541	QETN2EM-226Z	E CAP.	22μF 250V	M
	C1542	QETN2EM-226Z	E CAP.	22μF 250V	M
	C1550	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1591	QETN1AM-107Z	E CAP.	100μF 10V	M
	C1592	QEZ0203-107	E CAP.	100μF 160V	M
	C1593	QETN1EM-476Z	E CAP.	47μF 25V	M
	C1625	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1626	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1628	NCB31HK-472X	C CAP.	4700pF 50V	K
	C1629	NCB31EK-104X	C CAP.	0.1μF 25V	K
	C1630	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1631	NCB31EK-104X	C CAP.	0.1μF 25V	K
	C1632	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1633	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1634	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1635	QETN1HM-107Z	E CAP.	100μF 50V	M
	C1636	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1637	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1638	NCB31EK-104X	C CAP.	0.1μF 25V	K
	C1639	NCF21CZ-105X	C CAP.	1μF 16V	Z
	C1640	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1641	NCB31EK-104X	C CAP.	0.1μF 25V	K
	C1642	NCB31HK-472X	C CAP.	4700pF 50V	K
	C1644	QETN1HM-475Z	E CAP.	4.7μF 50V	M

⚠	Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR					
	C1645	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1650	QEHR1HM-106Z	E CAP.	10μF 50V	M
	C1651	QEHR1VM-476Z	E CAP.	47μF 35V	M
	C1652	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1655	QEHQ1VM-108	E CAP.	1000μF 35V	M
	C1656	QEHQ1VM-108	E CAP.	1000μF 35V	M
	C1659	NCF21HZ-224X	C CAP.	0.22μF 50V	Z
	C1660	NCF21HZ-224X	C CAP.	0.22μF 50V	Z
	C1661	NCF21HZ-224X	C CAP.	0.22μF 50V	Z
	C1662	QEHR1VM-227Z	E CAP.	220μF 35V	M
	C1663	NCF21HZ-224X	C CAP.	0.22μF 50V	Z
	C1681	QETN1CM-227Z	E CAP.	220μF 16V	M
	C1682	QETN1CM-227Z	E CAP.	220μF 16V	M
	C1683	QETN1CM-336Z	E CAP.	33μF 16V	M
	C1684	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1685	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	C1686	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	C1701	QETN1CM-227Z	E CAP.	220μF 16V	M
	C1702	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1703	NDC31HJ-330X	C CAP.	33pF 50V	J
	C1704	NDC31HJ-330X	C CAP.	33pF 50V	J
	C1705	NCB31HK-102X	C CAP.	1000pF 50V	K
	C1706	NCB21EK-224X	C CAP.	0.22μF 25V	K
	C1707	QETN1CM-107Z	E CAP.	100μF 16V	M
	C1709	QETN1CM-107Z	E CAP.	100μF 16V	M
	C1710	NCB21EK-224X	C CAP.	0.22μF 25V	K
	C1711	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1713	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1714	QETN1CM-476Z	E CAP.	47μF 16V	M
	C1720	QETN1CM-476Z	E CAP.	47μF 16V	M
	C1725	NCB31HK-681X	C CAP.	680pF 50V	K
	C1730	NCB21EK-224X	C CAP.	0.22μF 25V	K
	C1731	NCB21EK-224X	C CAP.	0.22μF 25V	K
	C1732	QETN1CM-107Z	E CAP.	100μF 16V	M
	C1733	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1734	NCB31HK-222X	C CAP.	2200pF 50V	K
	C1735	NCB31HK-222X	C CAP.	2200pF 50V	K
	C1736	QETN1HM-105Z	E CAP.	1μF 50V	M
	C1737	QETN1HM-105Z	E CAP.	1μF 50V	M
	C1738	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1739	NFV41CJ-104X	MPP CAP.	0.1μF 16V	J
	C1740	QETN1HM-225Z	E CAP.	2.2μF 50V	M
	C1741	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1742	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1743	QETN1CM-107Z	E CAP.	100μF 16V	M
	C1744	NCB31HK-102X	C CAP.	1000pF 50V	K
	C1745	NCB31EK-473X	C CAP.	0.047μF 25V	K
	C1746	NCB31EK-473X	C CAP.	0.047μF 25V	K
	C1747	NCB31EK-473X	C CAP.	0.047μF 25V	K
	C1748	QETN1CM-476Z	E CAP.	47μF 16V	M
	C1749	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1751	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1752	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1753	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1760	NCB31HK-104X	C CAP.	0.1μF 50V	K
	C1761	QETN1CM-107Z	E CAP.	100μF 16V	M
	C1770	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1801	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1802	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1803	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1804	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1805	NCB31HK-104X	C CAP.	0.1μF 50V	K
	C1807	NCF31AZ-105X	C CAP.	1μF 10V	Z
	C1808	NCF31AZ-105X	C CAP.	1μF 10V	Z
	C1810	NCF31AZ-105X	C CAP.	1μF 10V	Z
	C1811	NCB31HK-104X	C CAP.	0.1μF 50V	K
	C1812	NCF31AZ-105X	C CAP.	1μF 10V	Z
	C1813	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1814	NCB31HK-104X	C CAP.	0.1μF 50V	K
	C1815	NCF31AZ-105X	C CAP.	1μF 10V	Z
	C1817	NCF31AZ-105X	C CAP.	1μF 10V	Z
	C1819	NCB31HK-104X	C CAP.	0.1μF 50V	K

⚠	Symbol No.	Part No.	Part Name	Description	Local
	CAPACITOR				
	C1820	NCF31AZ-105X	C CAP.	1μF 10V Z	
	C1821	NCF31AZ-105X	C CAP.	1μF 10V Z	
	C1822	QETN1CM-477Z	E CAP.	470μF 16V M	
	C1823	QETN1CM-107Z	E CAP.	100μF 16V M	
	C1824	QETN1CM-107Z	E CAP.	100μF 16V M	
	C1825	NCB31HK-103X	C CAP.	0.01μF 50V K	
	C1826	NCB31HK-104X	C CAP.	0.1μF 50V K	
	C1827	NCB31HK-103X	C CAP.	0.01μF 50V K	
	C1829	NCB31HK-103X	C CAP.	0.01μF 50V K	
	C1830	NCB31HK-103X	C CAP.	0.01μF 50V K	
	C1831	NCB31HK-103X	C CAP.	0.01μF 50V K	
	C1833	QETN1HM-226Z	E CAP.	22μF 50V M	
	C1834	NDC31HJ-181X	C CAP.	180pF 50V J	
⚠	C1901	QFZ9072-224	MM CAP.	0.22μF	
⚠	C1902	QFZ9072-104	MM CAP.	0.1μF	
	C1903	QCZ9015-102Z	C CAP.	1000pF AC250V Z	
	C1904	QCZ9015-102Z	C CAP.	1000pF AC250V Z	
	C1905	QCZ9015-102Z	C CAP.	1000pF AC250V Z	
⚠	C1906	QFZ9072-224	MM CAP.	0.22μF	
	C1907	QEZ0552-227	E CAP.	220μF	
	C1908	QFZ0209-222	MPP CAP.	2200pF	
	C1910	NDC31HJ-471X	C CAP.	470pF 50V J	
	C1911	QEHR1EM-227Z	E CAP.	220μF 25V M	
	C1914	QETN1EM-227Z	E CAP.	220μF 25V M	
	C1915	QFLC1HJ-222Z	M CAP.	2200pF 50V J	
	C1952	QCB32HK-471Z	C CAP.	470pF 500V K	
	C1953	QEHQ1VM-108	E CAP.	1000μF 35V M	
	C1954	NCB31HK-102X	C CAP.	1000pF 50V K	
	C1957	QCB32HK-471Z	C CAP.	470pF 500V K	
	C1958	QEHQ1EM-228	E CAP.	2200μF 25V M	
	C1959	QCZ0364-561	C CAP.	560pF	
	C1960	QEZ0203-107	E CAP.	100μF 160V M	
	C1961	QETN1HM-225Z	E CAP.	2.2μF 50V M	
	C1962	QETN1HM-106Z	E CAP.	10μF 50V M	
	C1964	QETN1CM-476Z	E CAP.	47μF 16V M	
	C1965	QETN1HM-225Z	E CAP.	2.2μF 50V M	
	C1968	NCB31CK-104X	C CAP.	0.1μF 16V K	
	C1972	QEHR1VM-476Z	E CAP.	47μF 35V M	
	C1973	QEHR1CM-107Z	E CAP.	100μF 16V M	
	C1974	NCB31CK-104X	C CAP.	0.1μF 16V K	
	C1975	QEHR1CM-227Z	E CAP.	220μF 16V M	
	C1976	QEHR1CM-107Z	E CAP.	100μF 16V M	
	C1977	QEHR1AM-477Z	E CAP.	470μF 10V M	
	C1978	NCB31HK-104X	C CAP.	0.1μF 50V K	
	C1980	QETN1CM-107Z	E CAP.	100μF 16V M	
⚠	C1991	QCZ9079-102	C CAP.	1000pF AC250V M	
⚠	C1992	QCZ9079-102	C CAP.	1000pF AC250V M	
⚠	C1993	QCZ9079-152	C CAP.	1500pF AC250V M	
	TRANSFORMER				
	T1521	CE40203-00CJ1	DRIVE TRANSF		
⚠	T1551	QQH0143-001	FB TRANSF		
⚠	T1901	QQS0182-001	SW TRANSF		
	COIL				
	L1001	CE42050-001Z	BEADS CORE		
	L1002	CE42050-001Z	BEADS CORE		
	L1101	QQLZ014-R82	COIL	0.82μH	
	L1524	QQLZ034-320	COIL	32μH	
	L1701	QQL244K-100Z	COIL	10μH K	
	L1702	QQL244K-100Z	COIL	10μH K	
	L1731	QQL244J-5R6Z	COIL	5.6μH J	
	L1732	QQL244J-5R6Z	COIL	5.6μH J	
	L1951	QQLZ034-460	COIL	46μH	
	L1953	QQL244J-5R6Z	COIL	5.6μH J	
	L1954	QQL244J-5R6Z	COIL	5.6μH J	

⚠	Symbol No.	Part No.	Part Name	Description	Local
	DIODE				
	D1101	1SS268-X	SI. DIODE		
	D1350	1SS244-T2	SI. DIODE		
	D1352	RGP10J-5025-T3	SI. DIODE		
	D1353	MA111-X	SI. DIODE		
	D1354	MA111-X	SI. DIODE		
	D1355	MA111-X	SI. DIODE		
	D1356	MA111-X	SI. DIODE		
	D1357	MA111-X	SI. DIODE		
	D1358	MA111-X	SI. DIODE		
	D1360	1SS244-T2	SI. DIODE		
	D1370	1SS244-T2	SI. DIODE		
	D1372	MA3075/M/-X	ZENER DIODE		
	D1373	MA111-X	SI. DIODE		
	D1374	MA111-X	SI. DIODE		
	D1401	RGP10J-5025-T3	SI. DIODE		
	D1402	MTZJ75-T2	ZENER DIODE		
	D1405	1N4003-T2	SI. DIODE		
	D1408	MA111-X	SI. DIODE		
	D1523	RGP10J-5025-T3	SI. DIODE		
	D1541	RGP10J-5025-T3	SI. DIODE		
	D1550	MA111-X	SI. DIODE		
	D1551	RGP10J-5025-T3	SI. DIODE		
	D1553	RGP10J-5025-T3	SI. DIODE		
	D1554	RGP10J-5025-T3	SI. DIODE		
	D1592	MA3075/H/-X	ZENER DIODE		
	D1652	MA3330/L/-X	ZENER DIODE		
	D1653	MA3330/L/-X	ZENER DIODE		
	D1655	MA111-X	SI. DIODE		
	D1682	MA111-X	SI. DIODE		
	D1702	MA3024-X	ZENER DIODE		
	D1703	MA3051/M/-X	ZENER DIODE		
	D1704	MA3033-X	ZENER DIODE		
	D1730	MA111-X	SI. DIODE		
	D1731	MA111-X	SI. DIODE		
	D1732	MA111-X	SI. DIODE		
	D1733	MA111-X	SI. DIODE		
	D1760	SLR-342VR-T16	LED		
	D1761	SLR-342MC-T16	LED		
	D1770	MA111-X	SI. DIODE		
	D1771	P1241-04	PHOTO CONDUCTOR		
	D1801	MA3120/M/-X	ZENER DIODE		
	D1802	MA3120/M/-X	ZENER DIODE		
	D1807	MA3100/M/-X	ZENER DIODE		
	D1808	MA3100/M/-X	ZENER DIODE		
	D1901	GSIB460	BRIDGE DIODE		
	D1903	MTZJ12C-T2	ZENER DIODE		
	D1904	EG01C-T2	SI. DIODE		
	D1906	EG01C-T2	SI. DIODE		
	D1907	MA3150/M/-X	ZENER DIODE		
	D1908	MTZJ27B-T2	ZENER DIODE		
	D1909	MA111-X	SI. DIODE		
	D1910	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	D1911	RGP10J-TS-T3	SI. DIODE		
	D1912	1SS133-T2	SI. DIODE		
	D1914	ERC30-02L38	SI. DIODE		
	D1952	ERC30-02L38	SI. DIODE		
	D1954	RGP30B-F1	SI. DIODE		
	D1956	RU3AM-LFC4	SI. DIODE		
	D1964	MA3330/L/-X	ZENER DIODE		
	D1965	1SS133-T2	SI. DIODE		
	D1966	MA3068/M/-X	ZENER DIODE		
	D1968	MA111-X	SI. DIODE		
	D1969	MA111-X	SI. DIODE		
	D1971	MA111-X	SI. DIODE		

⚠	Symbol No.	Part No.	Part Name	Description	Local

TRANSISTOR

	Q1101	2SC5083/L-P/-T	TRANSISTOR	
	Q1102	UN2212-X	DIGI. TRANSISTOR	
	Q1104	2SB709A/QR/-X	TRANSISTOR	
	Q1108	2SD601A/QR/-X	TRANSISTOR	
	Q1130	2SB709A/QR/-X	TRANSISTOR	
	Q1131	UN2212-X	DIGI. TRANSISTOR	
	Q1132	2SD601A/QR/-X	TRANSISTOR	
	Q1133	2SB709A/QR/-X	TRANSISTOR	
	Q1134	UN2212-X	DIGI. TRANSISTOR	
	Q1135	UN2212-X	DIGI. TRANSISTOR	
	Q1136	2SD601A/QR/-X	TRANSISTOR	
	Q1137	2SD601A/QR/-X	TRANSISTOR	
	Q1301	2SB709A/QR/-X	TRANSISTOR	
	Q1302	2SB709A/QR/-X	TRANSISTOR	
	Q1350	STC344-T	TRANSISTOR	
	Q1351	2SA1321-T	TRANSISTOR	
	Q1352	2SB709A/QR/-X	TRANSISTOR	
	Q1360	STC344-T	TRANSISTOR	
	Q1361	2SA1321-T	TRANSISTOR	
	Q1370	STC344-T	TRANSISTOR	
	Q1371	2SA1321-T	TRANSISTOR	
	Q1374	2SD601A/QR/-X	TRANSISTOR	
	Q1375	2SD601A/QR/-X	TRANSISTOR	
	Q1376	2SD601A/QR/-X	TRANSISTOR	
	Q1521	2SC2655/Y/-T	TRANSISTOR	
	Q1522	2SD2634-YD	POWER TRANSISTOR	
	Q1591	2SA1208/ST/Z1-T	TRANSISTOR	
	Q1592	UN2212-X	DIGI. TRANSISTOR	
	Q1660	2SD601A/QR/-X	TRANSISTOR	
	Q1661	2SD601A/QR/-X	TRANSISTOR	
	Q1683	2SB709A/QR/-X	TRANSISTOR	
	Q1684	2SB709A/QR/-X	TRANSISTOR	
	Q1685	DTC323TK-X	DIGI. TRANSISTOR	
	Q1686	DTC323TK-X	DIGI. TRANSISTOR	
	Q1701	2SB709A/QR/-X	TRANSISTOR	
	Q1702	2SB709A/QR/-X	TRANSISTOR	
	Q1703	FMC2A-X	D.TRANSISTOR	
	Q1720	2SB709A/QR/-X	TRANSISTOR	
	Q1770	2SB709A/QR/-X	TRANSISTOR	
	Q1801	DTC323TK-X	DIGI. TRANSISTOR	
	Q1802	DTC323TK-X	DIGI. TRANSISTOR	
	Q1803	2SB709A/QR/-X	TRANSISTOR	
	Q1804	2SC1740S/QR/-T	TRANSISTOR	
	Q1860	2SD601A/QR/-X	TRANSISTOR	
	Q1861	2SB709A/QR/-X	TRANSISTOR	
	Q1862	2SB709A/QR/-X	TRANSISTOR	
	Q1952	2SD601A/QR/-X	TRANSISTOR	
	Q1953	2SD601A/QR/-X	TRANSISTOR	
	Q1954	2SD601A/QR/-X	TRANSISTOR	

IC

	IC1130	M52342SP	I.C(MONO-ANA)	
	IC1401	AN5522	I.C(MONO-ANA)	
	IC1602	NJW1138M-X	I.C(MONO-ANA)	
	IC1650	AN5276	I.C(MONO-ANA)	
	IC1701	TDA9386N22S0902	I.C(MCU)	
	IC1702	AT24C08-21WS3	I.C(MEMORY-OTH)	(SERVICE)
	IC1760	GP1UM281QK	IR DETECT UNIT	
	IC1801	MM1492AF	I.C(MONO-ANA)	
	IC1901	STR-F6707A/F7	I.C(HYBRID)	
	IC1951	SE115N-LF12	I.C(HYBRID)	
	IC1972	R1141Q331B-X	REGULATE	
	IC1974	AN80T36	REG I.C	

⚠	Symbol No.	Part No.	Part Name	Description	Local

OTHERS

		LC30114-001C-H	LED HOLDER			
		CM35921-B02	CDS HOLDER			
	CF1130	QAX0694-001Z	C FILTER			
	CF1131	QAX0694-001Z	C FILTER			
	CF1140	QAX0695-001Z	C FILTER			
	CL1001	QZW0027-002	WIRE CLAMP			
	CL1002	QZW0027-001	WIRE CLAMP			
	CL1003	QZW0027-004	WIRE CLAMP			
⚠	CP1951	ICP-N75-Y	IC PROTECTOR			
⚠	CP1953	ICP-N75-Y	IC PROTECTOR			
⚠	F1901	QMF51E2-4R0J4	FUSE			
	FC1901	CEMG002-001Z	FUSE CLIP			
	J1770	QNS0155-001	3.5 JACK			
	J1771	QNN0282-003	PIN JACK			
	J1772	QNN0282-002	PIN JACK			
	J1773	QNN0282-001	PIN JACK			
	J1801	QNN0349-001	PIN JACK			
	J1802	QNN0349-002	PIN JACK			
	J1803	QNN0348-001	PIN JACK			
	J1804	QNN0349-001	PIN JACK			
	K1104	QQR1113-001Z	FERRITE BEADS			
	K1105	QQR1113-001Z	FERRITE BEADS			
	K1106	QQR1113-001Z	FERRITE BEADS			
	K1701	QQR1113-001Z	FERRITE BEADS			
	K1902	QQR1114-001Z	FERRITE BEADS			
	K1903	QQR1114-001Z	FERRITE BEADS			
	K1951	QQR1113-001Z	FERRITE BEADS			
	K1954	QQR1113-001Z	FERRITE BEADS			
	K1955	QQR1214-001Y	FERRITE BEADS			
⚠	LF1902	QQR1035-001	LINE FILTER			
⚠	PC1901	PC123F2	IC(PHOTO COUPLE)			
⚠	RY1901	QSK0092-001	RELAY			
	S1780	QSW0619-003Z	TACT SWITCH	MENU		
	S1781	QSW0619-003Z	TACT SWITCH	CH-		
	S1782	QSW0619-003Z	TACT SWITCH	CH+		
	S1783	QSW0619-003Z	TACT SWITCH	VOL-		
	S1784	QSW0619-003Z	TACT SWITCH	VOL+		
⚠	S1901	QSW0846-001	PUSH SWITCH	POWER		
	SF1101	QAX0325-001	SAW FILTER			
	SF1102	QAX0731-001	SAW FILTER			
⚠	SK1351	QNZ0537-001	CRT SOCKET			
	TH1901	QAD0134-4R5	P THERMISTOR			
	TU1001	QAU0186-002	TUNER			
⚠	VA1901	QAF0052-621	VARISTOR			
	W1010	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1052	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1071	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1096	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1239	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1257	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1307	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1309	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1317	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1322	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1325	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1326	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1330	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1333	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1375	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1379	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1388	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1417	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1418	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1430	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	X1701	QAX0737-001	CRYSTAL			
	Y1001	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	Y1003	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	Y1005	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	Y1301	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	Y1601	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	Y1604	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J

DIFFERENCE PARTS LIST BETWEEN AV-20N83/BK AND AV-21D83/BK

In the DIFFERENCE PARTS LIST BETWEEN AV-20N83/BK and AV-21D83/BK, only difference points between these models are written. For other parts not mentioned in the list, please refer to the PARTS LIST (P49 – P53) for the AV-20N83/BK.

DIFFERENCE PARTS LIST

⚠	Symbol No.	Part No.		Part Name
		AV-20N83/BK	AV-21D83/BK	
		SCH-1090A-BK	**SCH-1122A-BK**	**MAIN PWB**
	R1413	QRX01GJ-3R9 (3.9Ω, 1W, J)	QRX01GJ-2R7 (2.7Ω, 1W, J)	MF R
	R1414	QRE121J-680Y (68Ω, 1/2W, J)	—	CR
	R1542	QRE121J-334Y (330kΩ, 1/2W, J)	QRE121J-274Y (270kΩ, 1/2W, J)	CR
⚠	T1551	QQH0143-001	QQH0142-001	FBT

PRINTED WIRING BOARD PARTS LIST [AV-20N83/VT]

MAIN PW BOARD ASS'Y (SCH-1316A-CK)

⚠	Symbol No.	Part No.	Part Name	Description	Local
	RESISTOR				
	R1001	NRSA63J-221X	MG R	220Ω 1/16W	J
	R1002	NRSA63J-221X	MG R	220Ω 1/16W	J
	R1003	NRSA63J-392X	MG R	3.9kΩ 1/16W	J
	R1004	NRSA63J-221X	MG R	220Ω 1/16W	J
	R1005	QQR1214-001Y	FERRITE BEADS		
	R1006	NRSA63J-273X	MG R	27kΩ 1/16W	J
	R1007	NRSA63J-750X	MG R	75Ω 1/16W	J
	R1101	NRSA63J-100X	MG R	10Ω 1/16W	J
	R1102	NRSA63J-682X	MG R	6.8kΩ 1/16W	J
	R1103	NRSA63J-272X	MG R	2.7kΩ 1/16W	J
	R1104	NRSA63J-181X	MG R	180Ω 1/16W	J
	R1105	NRSA63J-220X	MG R	22Ω 1/16W	J
	R1106	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1107	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R1108	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1109	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1111	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1112	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1117	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1119	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1120	NRSA63J-471X	MG R	470Ω 1/16W	J
	R1130	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R1131	NRSA63J-471X	MG R	470Ω 1/16W	J
	R1132	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1133	NRSA63J-152X	MG R	1.5kΩ 1/16W	J
	R1134	NRSA63J-182X	MG R	1.8kΩ 1/16W	J
	R1135	NRSA63J-561X	MG R	560Ω 1/16W	J
	R1136	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R1137	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1138	NRSA63J-471X	MG R	470Ω 1/16W	J
	R1139	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1140	NRSA63J-152X	MG R	1.5kΩ 1/16W	J
	R1141	NRSA63J-182X	MG R	1.8kΩ 1/16W	J
	R1142	NRSA63J-561X	MG R	560Ω 1/16W	J
	R1143	NRSA63J-471X	MG R	470Ω 1/16W	J
	R1144	NRSA63J-220X	MG R	22Ω 1/16W	J
	R1145	NRSA63J-821X	MG R	820Ω 1/16W	J
	R1146	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1147	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1148	NRSA63J-332X	MG R	3.3kΩ 1/16W	J
	R1155	NRSA63J-471X	MG R	470Ω 1/16W	J
	R1301	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1302	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1303	NRSA63J-562X	MG R	5.6kΩ 1/16W	J
	R1304	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1305	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1306	NRSA63J-562X	MG R	5.6kΩ 1/16W	J
	R1312	NRSA63J-331X	MG R	330Ω 1/16W	J
	R1314	NRSA63J-331X	MG R	330Ω 1/16W	J
	R1315	NRSA63J-333X	MG R	33kΩ 1/16W	J
	R1316	NRSA63J-682X	MG R	6.8kΩ 1/16W	J
	R1350	NRSA63J-151X	MG R	150Ω 1/16W	J
	R1352	QRL029J-123	OM R	12kΩ 2W	J
	R1353	NRSA63J-182X	MG R	1.8kΩ 1/16W	J
	R1354	NRSA63J-331X	MG R	330Ω 1/16W	J
	R1355	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1356	QRE121J-102Y	C R	1kΩ 1/2W	J
	R1357	QRZ0107-152Z	C R	1.5kΩ 1W	K
	R1358	QRE121J-272Y	C R	2.7kΩ 1/2W	J
	R1359	QRE121J-561Y	C R	560Ω 1/2W	J
	R1360	NRSA63J-151X	MG R	150Ω 1/16W	J
	R1362	QRL029J-123	OM R	12kΩ 2W	J
	R1363	NRSA63J-182X	MG R	1.8kΩ 1/16W	J
	R1364	NRSA63J-331X	MG R	330Ω 1/16W	J
	R1365	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1366	QRE121J-102Y	C R	1kΩ 1/2W	J
	R1367	QRZ0107-152Z	C R	1.5kΩ 1W	K
	R1368	NRSA63J-332X	MG R	3.3kΩ 1/16W	J
⚠	R1369	QRZ9017-150	F R	15Ω 1/4W	J
	R1370	NRSA63J-151X	MG R	150Ω 1/16W	J
	R1371	QRL029J-123	OM R	12kΩ 2W	J
	R1372	NRSA63J-182X	MG R	1.8kΩ 1/16W	J

⚠	Symbol No.	Part No.	Part Name	Description	Local
	RESISTOR				
	R1373	NRSA63J-331X	MG R	330Ω 1/16W	J
	R1374	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1375	QRE121J-102Y	C R	1kΩ 1/2W	J
	R1376	QRZ0107-152Z	C R	1.5kΩ 1W	K
	R1377	NRSA63J-330X	MG R	33Ω 1/16W	J
	R1378	NRSA63J-223X	MG R	22kΩ 1/16W	J
	R1379	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1383	QRE121J-394Y	C R	390kΩ 1/2W	J
	R1384	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1385	QRE141J-393Y	C R	39kΩ 1/4W	J
	R1401	NRSA63J-224X	MG R	220kΩ 1/16W	J
	R1403	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1405	NRSA63J-682X	MG R	6.8kΩ 1/16W	J
	R1406	NRSA63J-123X	MG R	12kΩ 1/16W	J
	R1408	NRSA63J-682X	MG R	6.8kΩ 1/16W	J
	R1410	NRSA63J-123X	MG R	12kΩ 1/16W	J
	R1411	QRG01GJ-221	OM R	220Ω 1W	J
	R1412	QRE121J-1R0Y	C R	1Ω 1/2W	J
	R1413	QRX01GJ-3R9	MF R	3.9Ω 1W	J
	R1414	QRE121J-390Y	C R	39Ω 1/2W	J
	R1425	NRSA63J-683X	MG R	68kΩ 1/16W	J
	R1521	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1522	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1524	QRL039J-220	OM R	22Ω 3W	J
	R1526	QRG01GJ-181	OM R	180Ω 1W	J
	R1527	QRL039J-103	OM R	10kΩ 3W	J
	R1528	QRX029J-R47	MF R	0.47Ω 2W	J
	R1529	QRX029J-R47	MF R	0.47Ω 2W	J
	R1531	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
⚠	R1532	QRZ9017-4R7	F R	4.7Ω 1/4W	J
⚠	R1540	QRZ9021-4R7	F R	4.7Ω 1W	J
	R1541	QRE121J-154Y	C R	150kΩ 1/2W	J
	R1542	QRE121J-334Y	C R	330kΩ 1/2W	J
	R1543	QRE121J-471Y	C R	470Ω 1/2W	J
	R1545	QRE121J-220Y	C R	22Ω 1/2W	J
	R1546	QRE121J-822Y	C R	8.2kΩ 1/2W	J
	R1591	QRE121J-222Y	C R	2.2kΩ 1/2W	J
	R1594	QRE121J-223Y	C R	22kΩ 1/2W	J
	R1595	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1596	QRT029J-1R8	MF R	1.8Ω 2W	J
	R1597	QRT029J-1R5	MF R	1.5Ω 2W	J
	R1621	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1622	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1624	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1625	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1627	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1650	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1651	NRSA63J-153X	MG R	15kΩ 1/16W	J
	R1654	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1655	NRSA63J-153X	MG R	15kΩ 1/16W	J
	R1658	QRE121J-2R2Y	C R	2.2Ω 1/2W	J
	R1659	QRE121J-2R2Y	C R	2.2Ω 1/2W	J
	R1660	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1661	NRSA63J-683X	MG R	68kΩ 1/16W	J
	R1662	NRSA63J-333X	MG R	33kΩ 1/16W	J
	R1663	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1664	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1686	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1687	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1688	NRSA63J-273X	MG R	27kΩ 1/16W	J
	R1690	NRSA63J-104X	MG R	100kΩ 1/16W	J
	R1698	NRSA63J-104X	MG R	100kΩ 1/16W	J
	R1699	NRSA63J-104X	MG R	100kΩ 1/16W	J
	R1701	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1702	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1703	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1704	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1705	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1706	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1707	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R1708	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R1709	NRSA63J-472X	MG R	4.7kΩ 1/16W	J

⚠	Symbol No.	Part No.	Part Name	Description		Local
RESISTOR						
	R1710	NRSA63J-472X	MG R	4.7kΩ	1/16W	J
	R1711	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1712	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1713	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1714	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1715	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R1716	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R1717	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R1718	NRSA63J-221X	MG R	220Ω	1/16W	J
	R1719	NRSA63J-221X	MG R	220Ω	1/16W	J
	R1720	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R1721	NRSA63J-221X	MG R	220Ω	1/16W	J
	R1722	NRSA63J-221X	MG R	220Ω	1/16W	J
	R1723	NRSA63J-221X	MG R	220Ω	1/16W	J
	R1724	NRSA63J-221X	MG R	220Ω	1/16W	J
	R1725	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R1726	NRSA63J-472X	MG R	4.7kΩ	1/16W	J
	R1727	NRSA63J-104X	MG R	100kΩ	1/16W	J
	R1728	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R1729	NRSA63J-470X	MG R	47Ω	1/16W	J
	R1730	NRSA63J-223X	MG R	22kΩ	1/16W	J
	R1731	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1732	NRSA02F-393X	MG R	39kΩ	1/10W	F
	R1733	NRSA63J-273X	MG R	27kΩ	1/16W	J
	R1734	NRSA63J-391X	MG R	390Ω	1/16W	J
	R1735	NRSA63J-104X	MG R	100kΩ	1/16W	J
	R1736	NRSA63J-333X	MG R	33kΩ	1/16W	J
	R1737	NRSA63J-272X	MG R	2.7kΩ	1/16W	J
	R1738	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	R1739	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1740	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1741	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1742	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	R1743	NRSA63J-681X	MG R	680Ω	1/16W	J
	R1744	NRSA63J-561X	MG R	560Ω	1/16W	J
	R1745	NRSA63J-105X	MG R	1MΩ	1/16W	J
	R1746	NRSA63J-333X	MG R	33kΩ	1/16W	J
	R1747	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R1748	NRSA02J-475X	MG R	4.7MΩ	1/10W	J
	R1749	NRSA02J-475X	MG R	4.7MΩ	1/10W	J
	R1750	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	R1755	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1756	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1757	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R1758	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R1760	NRSA63J-682X	MG R	6.8kΩ	1/16W	J
	R1770	QRE121J-271Y	C R	270Ω	1/2W	J
	R1771	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R1772	QRE121J-271Y	C R	270Ω	1/2W	J
	R1773	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R1775	NRSA63J-332X	MG R	3.3kΩ	1/16W	J
	R1776	NRSA63J-392X	MG R	3.9kΩ	1/16W	J
	R1777	NRSA63J-682X	MG R	6.8kΩ	1/16W	J
	R1779	NRSA63J-272X	MG R	2.7kΩ	1/16W	J
	R1780	NRSA63J-471X	MG R	470Ω	1/16W	J
	R1781	NRSA63J-122X	MG R	1.2kΩ	1/16W	J
	R1782	NRSA63J-181X	MG R	180Ω	1/16W	J
	R1783	NRSA63J-221X	MG R	220Ω	1/16W	J
	R1784	NRSA63J-331X	MG R	330Ω	1/16W	J
	R1785	NRSA63J-471X	MG R	470Ω	1/16W	J
	R1786	NRSA63J-202X	MG R	2kΩ	1/16W	J
	R1803	NRSA63J-333X	MG R	33kΩ	1/16W	J
	R1804	NRSA63J-750X	MG R	75Ω	1/16W	J
	R1805	NRSA63J-750X	MG R	75Ω	1/16W	J
	R1806	NRSA63J-750X	MG R	75Ω	1/16W	J
	R1807	NRSA63J-750X	MG R	75Ω	1/16W	J
	R1808	NRSA63J-823X	MG R	82kΩ	1/16W	J
	R1809	NRSA63J-391X	MG R	390Ω	1/16W	J
	R1810	NRSA63J-823X	MG R	82kΩ	1/16W	J
	R1811	NRSA63J-391X	MG R	390Ω	1/16W	J
	R1812	NRSA63J-104X	MG R	100kΩ	1/16W	J
	R1813	NRSA63J-222X	MG R	2.2kΩ	1/16W	J

⚠	Symbol No.	Part No.	Part Name	Description		Local
RESISTOR						
	R1815	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1818	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R1820	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1821	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R1823	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1824	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R1826	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1829	NRSA63J-750X	MG R	75Ω	1/16W	J
	R1830	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R1831	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R1832	NRSA63J-122X	MG R	1.2kΩ	1/16W	J
	R1833	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R1834	NRSA63J-562X	MG R	5.6kΩ	1/16W	J
	R1835	NRSA63J-562X	MG R	5.6kΩ	1/16W	J
	R1836	NRSA63J-750X	MG R	75Ω	1/16W	J
	R1837	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1838	QRK126J-121X	UNF R	120Ω	1/2W	J
	R1839	QRE121J-221Y	C R	220Ω	1/2W	J
	R1840	QRE121J-221Y	C R	220Ω	1/2W	J
	R1841	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	R1842	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	R1843	NRSA63J-821X	MG R	820Ω	1/16W	J
	R1844	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R1845	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R1846	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R1847	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R1848	NRSA63J-471X	MG R	470Ω	1/16W	J
	R1849	NRSA63J-221X	MG R	220Ω	1/16W	J
	R1880	NRSA63J-202X	MG R	2kΩ	1/16W	J
	R1881	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R1882	NRSA63J-471X	MG R	470Ω	1/16W	J
	R1883	NRSA63J-181X	MG R	180Ω	1/16W	J
	R1902	QRF154K-2R2	UNF R	2.2Ω	15W	K
	R1904	QRE121J-681Y	C R	680Ω	1/2W	J
	R1905	QRM034J-R22	MP R	0.22Ω	3W	J
	R1907	NRSA63J-563X	MG R	56kΩ	1/16W	J
	R1908	QRL039J-333	OM R	33kΩ	3W	J
	R1909	QRE121J-474Y	C R	470kΩ	1/2W	J
	R1910	QRE121J-152Y	C R	1.5kΩ	1/2W	J
	R1911	QRE121J-562Y	C R	5.6kΩ	1/2W	J
	R1912	NRSA63J-122X	MG R	1.2kΩ	1/16W	J
	R1913	QRE121J-120Y	C R	12Ω	1/2W	J
⚠	R1915	QRZ0111-474	C R	470kΩ	1W	K
	R1952	NRSA63J-332X	MG R	3.3kΩ	1/16W	J
	R1953	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1957	QRE121J-6R8Y	C R	6.8Ω	1/2W	J
	R1960	NRSA63J-391X	MG R	390Ω	1/16W	J
	R1961	QRL029J-183	OM R	18kΩ	2W	J
	R1962	NRSA63J-561X	MG R	560Ω	1/16W	J
	R1963	QRE121J-103Y	C R	10kΩ	1/2W	J
	R1964	NRSA63J-473X	MG R	47kΩ	1/16W	J
	R1965	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	R1966	NRSA63J-682X	MG R	6.8kΩ	1/16W	J
	R1967	NRSA63J-473X	MG R	47kΩ	1/16W	J
	R1970	NRSA63J-153X	MG R	15kΩ	1/16W	J
	R1971	NRSA63J-183X	MG R	18kΩ	1/16W	J
	R1972	NRSA63J-391X	MG R	390Ω	1/16W	J
⚠	R1991	QRZ9046-825Z	C R	8.2MΩ	1W	J
CAPACITOR						
	C1001	NCB31HK-103X	C CAP.	0.01μF	50V	K
	C1002	QETN1HM-106Z	E CAP.	10μF	50V	M
	C1003	QFV71HJ-104Z	MF CAP.	0.1μF	50V	J
	C1004	QETN1CM-477Z	E CAP.	470μF	16V	M
	C1005	NCB31HK-222X	C CAP.	2200pF	50V	K
	C1006	QETN1CM-336Z	E CAP.	33μF	16V	M
	C1007	NCB31HK-103X	C CAP.	0.01μF	50V	K
	C1101	NCB31HK-472X	C CAP.	4700pF	50V	K

⚠	Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR					
	C1102	NCB31HK-472X	C CAP.	4700pF 50V	K
	C1103	NCB31HK-472X	C CAP.	4700pF 50V	K
	C1104	NCB31HK-472X	C CAP.	4700pF 50V	K
	C1105	NCB31HK-472X	C CAP.	4700pF 50V	K
	C1106	NDC21HJ-180X	C CAP.	18pF 50V	J
	C1107	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1109	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1130	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1131	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1132	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1133	QETN1CM-107Z	E CAP.	100μF 16V	M
	C1134	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1135	QETN1AM-477Z	E CAP.	470μF 10V	M
	C1136	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1137	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1138	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1140	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1141	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1142	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1143	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1144	NCB31HK-223X	C CAP.	0.022μF 50V	K
	C1308	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1310	NCB31HK-104X	C CAP.	0.1μF 50V	K
	C1313	NCF31AZ-105X	C CAP.	1μF 10V	Z
	C1350	NDC21HJ-471X	C CAP.	470pF 50V	J
	C1351	NDC31HJ-681X	C CAP.	680pF 50V	J
	C1352	QETN2EM-475Z	E CAP.	4.7μF 250V	M
	C1353	QETN1HM-107Z	E CAP.	100μF 50V	M
	C1354	QETN1HM-105Z	E CAP.	1μF 50V	M
	C1360	NDC21HJ-471X	C CAP.	470pF 50V	J
	C1361	NDC31HJ-681X	C CAP.	680pF 50V	J
	C1370	NDC21HJ-471X	C CAP.	470pF 50V	J
	C1371	NDC31HJ-821X	C CAP.	820pF 50V	J
	C1372	NRSA63J-273X	MG R	27kΩ 1/16W	J
	C1374	QCZ0364-222	C CAP.	2200pF	
	C1375	QETN1CM-477Z	E CAP.	470μF 16V	M
	C1401	QETN1HM-105Z	E CAP.	1μF 50V	M
	C1402	QCB31HK-682Z	C CAP.	6800pF 50V	K
	C1403	QEHR1VM-227Z	E CAP.	220μF 35V	M
	C1406	QFLC2AJ-683Z	M CAP.	0.068μF 100V	J
	C1407	QCS32HJ-180Z	C CAP.	18pF 500V	J
	C1408	QFV71HJ-184Z	MF CAP.	0.18μF 50V	J
	C1411	NCF21HZ-334X	C CAP.	0.33μF 50V	Z
	C1412	NCF21HZ-334X	C CAP.	0.33μF 50V	Z
	C1413	QFLC2AJ-563Z	M CAP.	0.056μF 100V	J
	C1422	QEHQ1VM-108	E CAP.	1000μF 35V	M
	C1521	QETN1VM-476Z	E CAP.	47μF 35V	M
	C1522	QFLC1HJ-332Z	M CAP.	3300pF 50V	J
	C1523	QFLC1HJ-223Z	M CAP.	0.022μF 50V	J
	C1524	QFZ0200-942	MPP CAP.	9400pF 1.5kVH±3%	
	C1527	QFZ0199-124	MPP CAP.	0.12μF AC250V	J
	C1529	QEHR2EM-475Z	E CAP.	4.7μF 250V	M
	C1530	QCB32HK-561Z	C CAP.	560pF 500V	K
	C1531	QEHR1EM-108Z	E CAP.	1000μF 25V	M
	C1533	QEHR1EM-108Z	E CAP.	1000μF 25V	M
	C1535	QCB32HK-101Z	C CAP.	100pF 500V	K
	C1536	QFLC1HJ-103Z	M CAP.	0.01μF 50V	J
	C1540	QFV71HJ-104Z	MF CAP.	0.1μF 50V	J
	C1541	QETN2EM-226Z	E CAP.	22μF 250V	M
	C1542	QETN2EM-226Z	E CAP.	22μF 250V	M
	C1550	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1591	QETN1AM-107Z	E CAP.	100μF 10V	M
	C1592	QEZ0203-107	E CAP.	100μF 160V	M
	C1593	QETN1EM-476Z	E CAP.	47μF 25V	M
	C1625	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1626	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1628	NCB31HK-472X	C CAP.	4700pF 50V	K
	C1629	NCB31EK-104X	C CAP.	0.1μF 25V	K
	C1630	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1631	NCB31EK-104X	C CAP.	0.1μF 25V	K
	C1632	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1633	QETN1HM-475Z	E CAP.	4.7μF 50V	M

⚠	Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR					
	C1634	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1635	QETN1HM-107Z	E CAP.	100μF 50V	M
	C1636	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1637	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1638	NCB31EK-104X	C CAP.	0.1μF 25V	K
	C1639	NCF21CZ-105X	C CAP.	1μF 16V	Z
	C1640	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1641	NCB31EK-104X	C CAP.	0.1μF 25V	K
	C1642	NCB31HK-472X	C CAP.	4700pF 50V	K
	C1644	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1645	QETN1HM-475Z	E CAP.	4.7μF 50V	M
	C1650	QEHR1HM-106Z	E CAP.	10μF 50V	M
	C1651	QEHR1VM-476Z	E CAP.	47μF 35V	M
	C1652	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1655	QEHQ1VM-108	E CAP.	1000μF 35V	M
	C1656	QEHQ1VM-108	E CAP.	1000μF 35V	M
	C1659	NCF21HZ-224X	C CAP.	0.22μF 50V	Z
	C1660	NCF21HZ-224X	C CAP.	0.22μF 50V	Z
	C1661	NCF21HZ-224X	C CAP.	0.22μF 50V	Z
	C1662	QEHR1VM-227Z	E CAP.	220μF 35V	M
	C1663	NCF21HZ-224X	C CAP.	0.22μF 50V	Z
	C1681	QETN1CM-227Z	E CAP.	220μF 16V	M
	C1682	QETN1CM-227Z	E CAP.	220μF 16V	M
	C1683	QETN1CM-336Z	E CAP.	33μF 16V	M
	C1684	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1685	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	C1686	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	C1701	QETN1CM-227Z	E CAP.	220μF 16V	M
	C1702	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1703	NDC31HJ-330X	C CAP.	33pF 50V	J
	C1704	NDC31HJ-330X	C CAP.	33pF 50V	J
	C1705	NCB31HK-102X	C CAP.	1000pF 50V	K
	C1706	NCB21EK-224X	C CAP.	0.22μF 25V	K
	C1707	QETN1CM-107Z	E CAP.	100μF 16V	M
	C1709	QETN1CM-107Z	E CAP.	100μF 16V	M
	C1710	NCB21EK-224X	C CAP.	0.22μF 25V	K
	C1711	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1713	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1714	QETN1CM-476Z	E CAP.	47μF 16V	M
	C1720	QETN1CM-476Z	E CAP.	47μF 16V	M
	C1725	NCB31HK-681X	C CAP.	680pF 50V	K
	C1730	NCB21EK-224X	C CAP.	0.22μF 25V	K
	C1731	NCB21EK-224X	C CAP.	0.22μF 25V	K
	C1732	QETN1CM-107Z	E CAP.	100μF 16V	M
	C1733	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1734	NCB31HK-222X	C CAP.	2200pF 50V	K
	C1735	NCB31HK-222X	C CAP.	2200pF 50V	K
	C1736	QETN1HM-105Z	E CAP.	1μF 50V	M
	C1737	QETN1HM-105Z	E CAP.	1μF 50V	M
	C1738	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1739	NFV41CJ-104X	MPP CAP.	0.1μF 16V	J
	C1740	QETN1HM-225Z	E CAP.	2.2μF 50V	M
	C1741	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1742	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1743	QETN1CM-107Z	E CAP.	100μF 16V	M
	C1744	NCB31HK-102X	C CAP.	1000pF 50V	K
	C1745	NCB31EK-473X	C CAP.	0.047μF 25V	K
	C1746	NCB31EK-473X	C CAP.	0.047μF 25V	K
	C1747	NCB31EK-473X	C CAP.	0.047μF 25V	K
	C1748	QETN1CM-476Z	E CAP.	47μF 16V	M
	C1749	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1751	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1752	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1753	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1760	NCB31HK-104X	C CAP.	0.1μF 50V	K
	C1761	QETN1CM-107Z	E CAP.	100μF 16V	M
	C1770	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1801	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1802	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1803	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1804	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1805	NCB31HK-104X	C CAP.	0.1μF 50V	K

⚠	Symbol No.	Part No.	Part Name	Description	Local
	CAPACITOR				
	C1807	NCF31AZ-105X	C CAP.	1μF 10V	Z
	C1808	NCF31AZ-105X	C CAP.	1μF 10V	Z
	C1810	NCF31AZ-105X	C CAP.	1μF 10V	Z
	C1811	NCB31HK-104X	C CAP.	0.1μF 50V	K
	C1812	NCF31AZ-105X	C CAP.	1μF 10V	Z
	C1813	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1814	NCB31HK-104X	C CAP.	0.1μF 50V	K
	C1815	NCF31AZ-105X	C CAP.	1μF 10V	Z
	C1817	NCF31AZ-105X	C CAP.	1μF 10V	Z
	C1819	NCB31HK-104X	C CAP.	0.1μF 50V	K
	C1820	NCF31AZ-105X	C CAP.	1μF 10V	Z
	C1821	NCF31AZ-105X	C CAP.	1μF 10V	Z
	C1822	QETN1CM-477Z	E CAP.	470μF 16V	M
	C1823	QETN1CM-107Z	E CAP.	100μF 16V	M
	C1824	QETN1CM-107Z	E CAP.	100μF 16V	M
	C1825	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1826	NCB31HK-104X	C CAP.	0.1μF 50V	K
	C1827	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1829	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1830	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1831	NCB31HK-103X	C CAP.	0.01μF 50V	K
	C1833	QETN1HM-226Z	E CAP.	22μF 50V	M
	C1834	NDC31HJ-181X	C CAP.	180pF 50V	J
⚠	C1901	QFZ9075-224	MPP CAP.	0.22μF	
⚠	C1902	QFZ9075-104	MPP CAP.	0.1μF	
	C1903	QCZ9015-102Z	C CAP.	1000pF AC250V	Z
	C1904	QCZ9015-102Z	C CAP.	1000pF AC250V	Z
	C1905	QCZ9015-102Z	C CAP.	1000pF AC250V	Z
⚠	C1906	QFZ9072-224	MM CAP.	0.22μF	
	C1907	QEZ0552-227	E CAP.	220μF	
	C1908	QFZ0209-222	MPP CAP.	2200pF	
	C1910	NDC31HJ-471X	C CAP.	470pF 50V	J
	C1911	QEHR1EM-227Z	E CAP.	220μF 25V	M
	C1914	QETN1EM-227Z	E CAP.	220μF 25V	M
	C1915	QFLC1HJ-222Z	M CAP.	2200pF 50V	J
	C1952	QCB32HK-471Z	C CAP.	470pF 500V	K
	C1953	QEHQ1VM-108	E CAP.	1000μF 35V	M
	C1954	NCB31HK-102X	C CAP.	1000pF 50V	K
	C1957	QCB32HK-471Z	C CAP.	470pF 500V	K
	C1958	QEHQ1EM-228	E CAP.	2200μF 25V	M
	C1959	QCZ0364-561	C CAP.	560pF	
	C1960	QEZ0203-107	E CAP.	100μF 160V	M
	C1961	QETN1HM-225Z	E CAP.	2.2μF 50V	M
	C1962	QETN1HM-106Z	E CAP.	10μF 50V	M
	C1964	QETN1CM-476Z	E CAP.	47μF 16V	M
	C1965	QETN1HM-225Z	E CAP.	2.2μF 50V	M
	C1968	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1972	QEHR1VM-476Z	E CAP.	47μF 35V	M
	C1973	QEHR1CM-107Z	E CAP.	100μF 16V	M
	C1974	NCB31CK-104X	C CAP.	0.1μF 16V	K
	C1975	QEHR1CM-227Z	E CAP.	220μF 16V	M
	C1976	QEHR1CM-107Z	E CAP.	100μF 16V	M
	C1977	QEHR1AM-477Z	E CAP.	470μF 10V	M
	C1978	NCB31HK-104X	C CAP.	0.1μF 50V	K
	C1980	QETN1CM-107Z	E CAP.	100μF 16V	M
⚠	C1991	QCZ9079-102	C CAP.	1000pF AC250V	M
⚠	C1992	QCZ9079-102	C CAP.	1000pF AC250V	M
⚠	C1993	QCZ9079-152	C CAP.	1500pF AC250V	M
	TRANSFORMER				
	T1521	CE40203-00CJ1	DRIVE TRANSF		
⚠	T1551	QQH0142-001	FB TRANSF		
⚠	T1901	QQS0182-001	SW TRANSF		

⚠	Symbol No.	Part No.	Part Name	Description	Local
	COIL				
	L1001	CE42050-001Z	BEADS CORE		
	L1002	CE42050-001Z	BEADS CORE		
	L1101	QQLZ014-R82	COIL	0.82μH	
	L1104	QQL244K-180Z	COIL	18μH	K
	L1523	QQR1005-002	LINEARITY COIL		
	L1524	QQLZ018-760	COIL	76μH	
	L1701	QQL244K-100Z	COIL	10μH	K
	L1702	QQL244K-100Z	COIL	10μH	K
	L1731	QQL244J-5R6Z	COIL	5.6μH	J
	L1732	QQL244J-5R6Z	COIL	5.6μH	J
	L1951	QQLZ034-460	COIL	46μH	
	L1953	QQL244J-5R6Z	COIL	5.6μH	J
	L1954	QQL244J-5R6Z	COIL	5.6μH	J
	DIODE				
	D1101	ISS268-X	SI. DIODE		
	D1350	1SS244-T2	SI. DIODE		
	D1352	RGP10J-5025-T3	SI. DIODE		
	D1353	MA111-X	SI. DIODE		
	D1354	MA111-X	SI. DIODE		
	D1355	MA111-X	SI. DIODE		
	D1356	MA111-X	SI. DIODE		
	D1357	MA111-X	SI. DIODE		
	D1358	MA111-X	SI. DIODE		
	D1360	1SS244-T2	SI. DIODE		
	D1370	1SS244-T2	SI. DIODE		
	D1372	MA3075/M/-X	ZENER DIODE		
	D1373	MA111-X	SI. DIODE		
	D1374	MA111-X	SI. DIODE		
	D1401	RGP10J-5025-T3	SI. DIODE		
	D1402	MTZJ75-T2	ZENER DIODE		
	D1405	1N4003-T2	SI. DIODE		
	D1408	MA111-X	SI. DIODE		
	D1523	RGP10J-5025-T3	SI. DIODE		
	D1541	RGP10J-5025-T3	SI. DIODE		
	D1550	MA111-X	SI. DIODE		
	D1551	RGP10J-5025-T3	SI. DIODE		
	D1553	RGP10J-5025-T3	SI. DIODE		
	D1554	RGP10J-5025-T3	SI. DIODE		
	D1592	MA3075/H/-X	ZENER DIODE		
	D1652	MA3330/L/-X	ZENER DIODE		
	D1653	MA3330/L/-X	ZENER DIODE		
	D1655	MA111-X	SI. DIODE		
	D1682	MA111-X	SI. DIODE		
	D1702	MA3024-X	ZENER DIODE		
	D1703	MA3051/M/-X	ZENER DIODE		
	D1704	MA3033-X	ZENER DIODE		
	D1730	MA111-X	SI. DIODE		
	D1731	MA111-X	SI. DIODE		
	D1732	MA111-X	SI. DIODE		
	D1733	MA111-X	SI. DIODE		
	D1760	SLR-342VR-T16	LED		
	D1761	SLR-342MC-T16	LED		
	D1770	MA111-X	SI. DIODE		
	D1771	P1241-04	PHOTO CONDUCTOR		
	D1801	MA3120/M/-X	ZENER DIODE		
	D1802	MA3120/M/-X	ZENER DIODE		
	D1807	MA3100/M/-X	ZENER DIODE		
	D1808	MA3100/M/-X	ZENER DIODE		
	D1901	GSIB460	BRIDGE DIODE		
	D1903	MTZJ12C-T2	ZENER DIODE		
	D1904	EG01C-T2	SI. DIODE		
	D1906	EG01C-T2	SI. DIODE		
	D1907	MA3150/M/-X	ZENER DIODE		
	D1908	MTZJ27B-T2	ZENER DIODE		
	D1909	MA111-X	SI. DIODE		
	D1910	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	D1911	RGP10J-TS-T3	SI. DIODE		
	D1912	1SS133-T2	SI. DIODE		
	D1914	ERC30-02L38	SI. DIODE		
	D1952	ERC30-02L38	SI. DIODE		

⚠	Symbol No.	Part No.	Part Name	Description	Local

DIODE

	D1954	RGP30B-F1	SI. DIODE		
	D1956	RU3AM-LFC4	SI. DIODE		
	D1964	MA3330/L/-X	ZENER DIODE		
	D1965	1SS133-T2	SI. DIODE		
	D1966	MA3068/M/-X	ZENER DIODE		
	D1968	MA111-X	SI. DIODE		
	D1969	MA111-X	SI. DIODE		
	D1971	MA111-X	SI. DIODE		

TRANSISTOR

	Q1101	2SC5083/L-P/-T	TRANSISTOR		
	Q1102	UN2212-X	DIGI. TRANSISTOR		
	Q1104	2SB709A/QR/-X	TRANSISTOR		
	Q1105	UN2212-X	DIGI. TRANSISTOR		
	Q1106	UN2212-X	DIGI. TRANSISTOR		
	Q1108	2SD601A/QR/-X	TRANSISTOR		
	Q1109	2SB709A/QR/-X	TRANSISTOR		
	Q1110	UN2212-X	DIGI. TRANSISTOR		
	Q1111	2SD601A/QR/-X	TRANSISTOR		
	Q1130	2SB709A/QR/-X	TRANSISTOR		
	Q1131	UN2212-X	DIGI. TRANSISTOR		
	Q1132	2SD601A/QR/-X	TRANSISTOR		
	Q1133	2SB709A/QR/-X	TRANSISTOR		
	Q1134	UN2212-X	DIGI. TRANSISTOR		
	Q1135	UN2212-X	DIGI. TRANSISTOR		
	Q1136	2SD601A/QR/-X	TRANSISTOR		
	Q1137	2SD601A/QR/-X	TRANSISTOR		
	Q1301	2SB709A/QR/-X	TRANSISTOR		
	Q1302	2SB709A/QR/-X	TRANSISTOR		
	Q1305	2SC2412K/QR/-X	TRANSISTOR		
	Q1306	2SC2412K/QR/-X	TRANSISTOR		
	Q1307	2SA1037AK/QR/-X	TRANSISTOR		
	Q1350	STC344-T	TRANSISTOR		
	Q1351	2SA1321-T	TRANSISTOR		
	Q1352	2SB709A/QR/-X	TRANSISTOR		
	Q1360	STC344-T	TRANSISTOR		
	Q1361	2SA1321-T	TRANSISTOR		
	Q1370	STC344-T	TRANSISTOR		
	Q1371	2SA1321-T	TRANSISTOR		
	Q1374	2SD601A/QR/-X	TRANSISTOR		
	Q1375	2SD601A/QR/-X	TRANSISTOR		
	Q1376	2SD601A/QR/-X	TRANSISTOR		
	Q1521	2SC2655/Y/-T	TRANSISTOR		
	Q1522	2SD2634-YD	POWER TRANSISTOR		
	Q1591	2SA1208/ST/Z1-T	TRANSISTOR		
	Q1592	UN2212-X	DIGI. TRANSISTOR		
	Q1660	2SD601A/QR/-X	TRANSISTOR		
	Q1661	2SD601A/QR/-X	TRANSISTOR		
	Q1683	2SB709A/QR/-X	TRANSISTOR		
	Q1684	2SB709A/QR/-X	TRANSISTOR		
	Q1685	DTC323TK-X	DIGI. TRANSISTOR		
	Q1686	DTC323TK-X	DIGI. TRANSISTOR		
	Q1701	2SB709A/QR/-X	TRANSISTOR		
	Q1702	2SB709A/QR/-X	TRANSISTOR		
	Q1703	FMC2A-X	D.TRANSISTOR		
	Q1720	2SB709A/QR/-X	TRANSISTOR		
	Q1770	2SB709A/QR/-X	TRANSISTOR		
	Q1801	DTC323TK-X	DIGI. TRANSISTOR		
	Q1802	DTC323TK-X	DIGI. TRANSISTOR		
	Q1803	2SB709A/QR/-X	TRANSISTOR		
	Q1804	2SC1740S/QR/-T	TRANSISTOR		
	Q1860	2SD601A/QR/-X	TRANSISTOR		
	Q1861	2SB709A/QR/-X	TRANSISTOR		
	Q1862	2SB709A/QR/-X	TRANSISTOR		
	Q1952	2SD601A/QR/-X	TRANSISTOR		
	Q1953	2SD601A/QR/-X	TRANSISTOR		
	Q1954	2SD601A/QR/-X	TRANSISTOR		

⚠	Symbol No.	Part No.	Part Name	Description	Local

IC

	IC1130	M52342SP	I.C(MONO-ANA)		
	IC1401	AN5522	I.C(MONO-ANA)		
	IC1602	NJW1138M-X	I.C(MONO-ANA)		
	IC1650	AN5276	I.C(MONO-ANA)		
	IC1701	TDA9386N22S0902	I.C(MCU)		
	IC1702	AT24C08-21WS3	I.C(MEMORY-OTH)	(SERVICE)	
	IC1760	GP1UM281QK	IR DETECT UNIT		
	IC1801	MM1492AF	I.C(MONO-ANA)		
	IC1901	STR-F6707A/F7	I.C(HYBRID)		
	IC1951	SE115N-LF12	I.C(HYBRID)		
	IC1972	R1141Q331B-X	REGULATE		
	IC1974	AN80T36	REG I.C		

OTHERS

		LC30114-001C-H	LED HOLDER		
		CM35921-B02	CDS HOLDER		
	CF1106	QAX0639-001Z	C TRAP		
	CF1130	QAX0642-001Z	C FILTER		
	CF1140	QAX0695-001Z	C FILTER		
	CF1142	QAX0697-001Z	C FILTER		
	CL1001	QZW0027-002	WIRE CLAMP		
	CL1002	QZW0027-001	WIRE CLAMP		
	CL1003	QZW0027-004	WIRE CLAMP		
⚠	CP1951	ICP-N75-Y	IC PROTECTOR		
⚠	CP1953	ICP-N75-Y	IC PROTECTOR		
⚠	F1901	QMF51E2-4R0J4	FUSE		
	FC1901	CEMG002-001Z	FUSE CLIP		
	J1770	QNS0155-001	3.5 JACK		
	J1771	QNN0282-003	PIN JACK		
	J1772	QNN0282-002	PIN JACK		
	J1773	QNN0282-001	PIN JACK		
	J1801	QNN0349-001	PIN JACK		
	J1802	QNN0349-002	PIN JACK		
	J1803	QNN0348-001	PIN JACK		
	J1804	QNN0349-001	PIN JACK		
	K1104	QQR1113-001Z	FERRITE BEADS		
	K1105	QQR1113-001Z	FERRITE BEADS		
	K1106	QQR1113-001Z	FERRITE BEADS		
	K1401	CE42050-001Z	BEADS CORE		
	K1701	QQR1113-001Z	FERRITE BEADS		
	K1902	QQR1114-001Z	FERRITE BEADS		
	K1903	QQR1114-001Z	FERRITE BEADS		
	K1951	QQR1113-001Z	FERRITE BEADS		
	K1954	QQR1113-001Z	FERRITE BEADS		
	K1955	QQR1214-001Y	FERRITE BEADS		
⚠	LF1902	QQR1035-001	LINE FILTER		
⚠	PC1901	PC123F2	IC(PHOTO COUPLE)		
⚠	RY1901	QSK0092-001	RELAY		
	S1780	QSW0619-003Z	TACT SWITCH	MENU	
	S1781	QSW0619-003Z	TACT SWITCH	CH-	
	S1782	QSW0619-003Z	TACT SWITCH	CH+	
	S1783	QSW0619-003Z	TACT SWITCH	VOL-	
	S1784	QSW0619-003Z	TACT SWITCH	VOL+	
⚠	S1901	QSW0846-001	PUSH SWITCH	POWER	
	SF1101	QAX0325-001	SAW FILTER		
	SF1102	QAX0731-001	SAW FILTER		
⚠	SK1351	QNZ0537-001	CRT SOCKET		
	TH1901	QAD0134-4R5	P THERMISTOR		
	TU1001	QAU0186-002	TUNER		
⚠	VA1901	QAF0052-621	VARISTOR		
	W1010	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1052	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1071	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1096	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1239	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1257	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1307	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1309	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1317	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1322	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	

⚠	Symbol No.	Part No.	Part Name	Description	Local
	OTHERS				
	W1325	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1326	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1330	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1333	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1375	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1379	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1388	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1417	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1418	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1430	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	X1701	QAX0737-001	CRYSTAL		
	Y1001	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	Y1002	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	Y1005	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	Y1130	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	Y1601	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	Y1604	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	

⚠	Symbol No.	Part No.	Part Name	Description	Local

DIFFERENCE PARTS LIST BETWEEN AV-21D83/VT AND AV-20N83/VT

In the DIFFERENCE PARTS LIST BETWEEN AV-21D83/VT and AV-20N83/VT, only difference points between these models are written. For other parts not mentioned in the list, please refer to the PARTS LIST (P55 – P60) for the AV-20N83/VT.

DIFFERENCE PARTS LIST

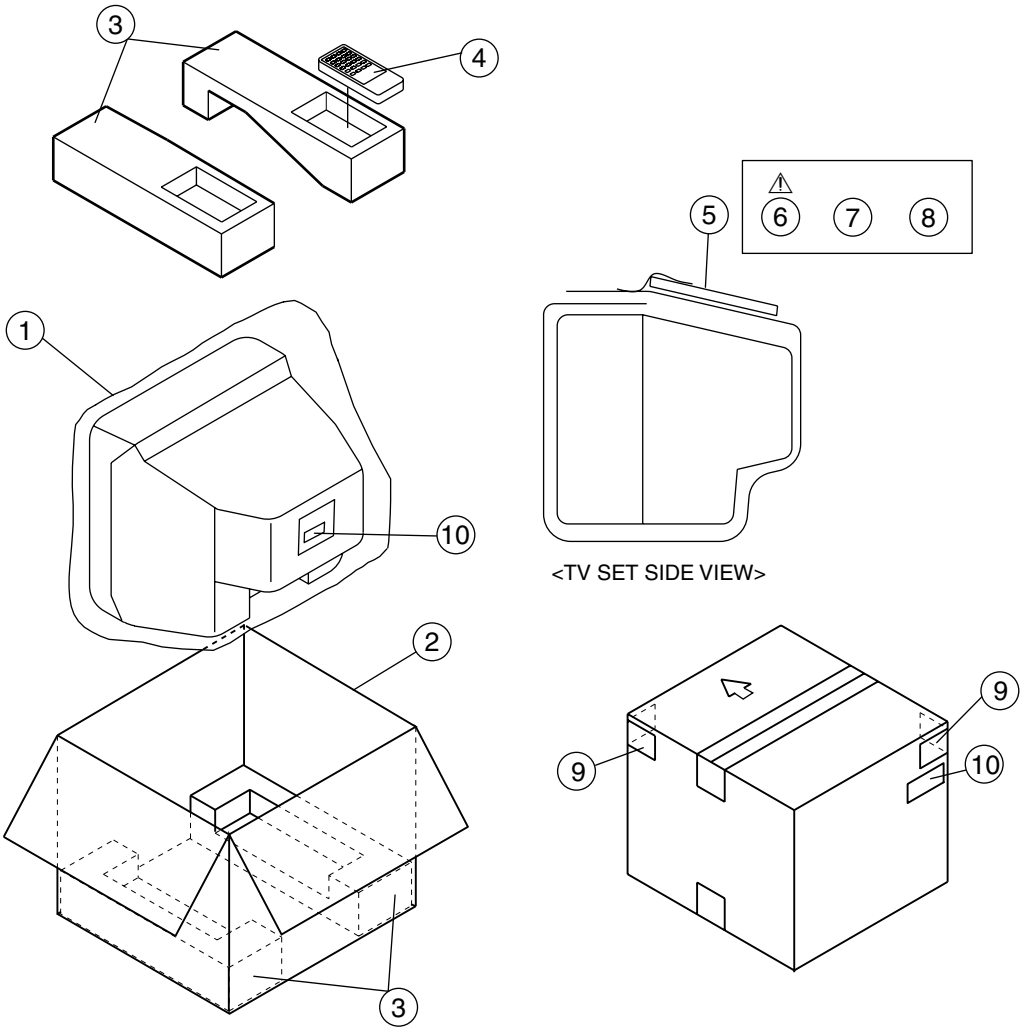
⚠	Symbol No.	Part No.		Part Name
		AV-21D83/VT	AV-20N83/VT	
		SCH-1315A-CK	SCH-1316A-CK	MAIN PWB
	R1413	QRX01GJ-3R3 (3.3Ω, 1W, J)	QRX01GJ-3R9 (3.9Ω, 1W, J)	MF R
	R1414	QRE121J-220Y (22Ω, 1/2W, J)	QRE121J-390Y (39Ω, 1/2W, J)	CR
	C1524	QFZ0200-902 (9000pF, 1.5kVH±3%)	QFZ0200-942 (9400pF, 1.5kVH±3%)	MPP CAP
	C1527	QFZ0199-564 (0.56μF, AC250V, J)	QFZ0199-124 (0.12μF, AC250V, J)	MPP CAP

REMOTE CONTROL UNIT PARTS LIST

RM-C1017-1H [AV-20N83/BK, AV-21D83/BK]
RM-C1027-1H [AV-21D83/VT, AV-20N83/VT]

⚠	Ref. No.	Part No.	Part Name	Description	Local
		25-1168F	BATTERY COVER		

PACKING [AV-20N83/BK, AV-20N83/VT]

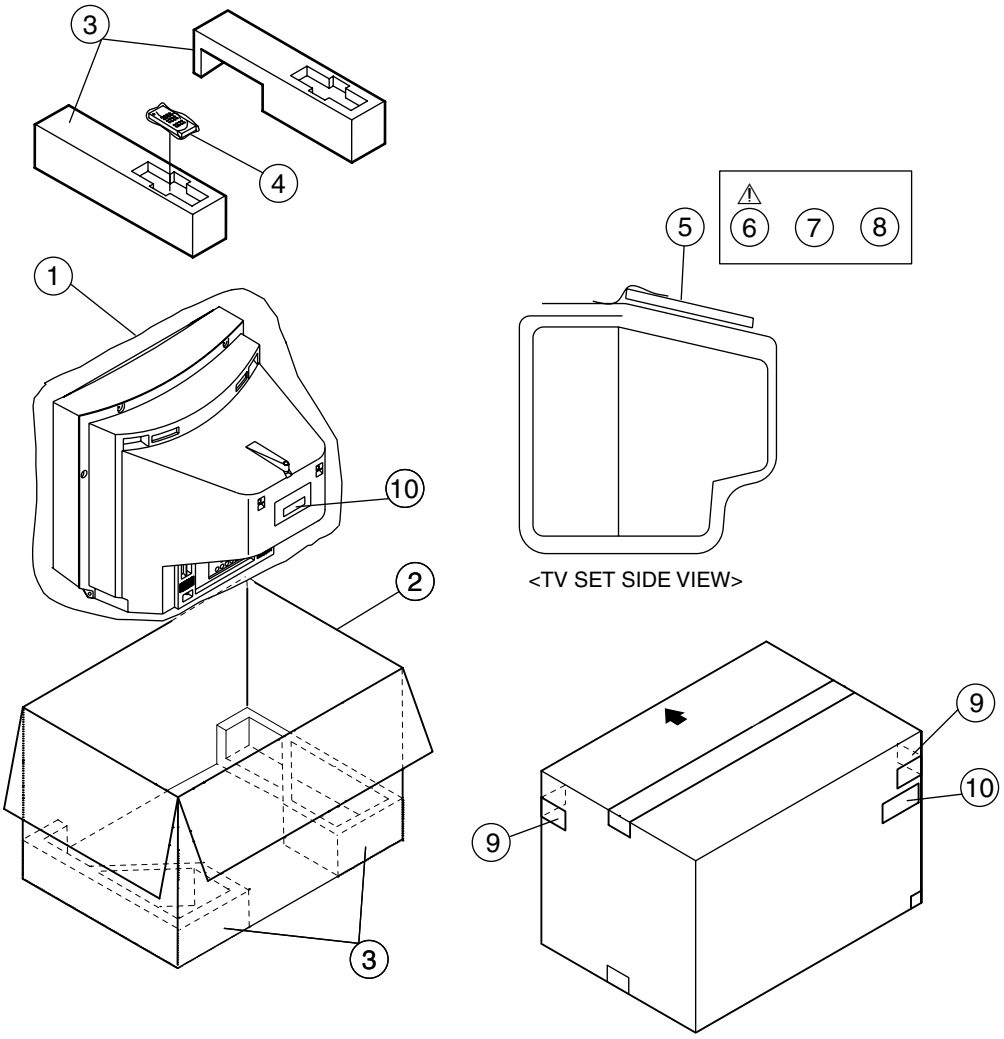


<TV SET SIDE VIEW>

PACKING PARTS LIST [AV-20N83/BK, AV-20N83/VT]

⚠	Ref.No.	Part No.	Part Name	Description	Local
	1	CP30967-003-H	POLY BAG	[AV-20N83/BK]	
	1	GG30033-001A-E	POLY BAG	[AV-20N83/VT]	
	2	GG10056-075A-H	P CASE	[AV-20N83/BK]	
	2	GG10007-024A-E	P CASE	[AV-20N83/VT]	
	3	LC10469-002A-H	CUSHION ASSY	[AV-20N83/BK]	
	3	LC10469-004A	CUSHION ASSY	[AV-20N83/VT]	
	4	RM-C1017-1H	RC HAND UNIT		
	5	CP30966-001-H	POLY BAG	[AV-20N83/BK]	
	5	GG30034-001A-E	POLY BAG	[AV-20N83/VT]	
⚠	6	LCT1204-001A-H	INST BOOK	[AV-20N83/BK]	
⚠	6	LCT1211-001A	INST BOOK	[AV-20N83/VT]	
	7	ATEAB001-00A	MATCHING BOX	[AV-20N83/BK]	
	7	CEAB005-00AJ1	MATCHING BOX	[AV-20N83/VT]	
	8	CM35847-00B-H	ROD ANTENNA	[AV-20N83/VT]	
	9	GG20025-003A-H	CORNER LABEL	(x2) [AV-20N83/BK]	
	10	GG40015-001A-E	SERIAL LABEL	(x2) [AV-20N83/VT]	

PACKING [AV-21D83/BK, AV-21D83/VT]



PACKING PARTS LIST [AV-21D83/BK, AV-21D83/VT]

⚠	Ref.No.	Part No.	Part Name	Description	Local
	1	CP30967-003-H	POLY BAG	[AV-21D83/BK]	
	1	GG30033-001A-E	POLY BAG	[AV-21D83/VT]	
	2	GG10056-078A-H	P CASE	[AV-21D83/BK]	
	2	GG10007-025A-E	P CASE	[AV-21D83/VT]	
	3	GG10131-001B-H	CUSHION ASSY	[AV-21D83/BK]	
	3	GG10131-003A-E	CUSHION ASSY	[AV-21D83/VT]	
	4	RM-C1027-1H	RC HAND UNIT		
	5	CP30966-001-H	POLY BAG	[AV-21D83/BK]	
	5	GG30034-001A-E	POLY BAG	[AV-21D83/VT]	
⚠	6	LCT1204-001A-H	INST BOOK	[AV-21D83/BK]	
⚠	6	LCT1211-001A	INST BOOK	[AV-21D83/VT]	
	7	ATEAB001-00A	MATCHING BOX	[AV-21D83/BK]	
	7	CEAB005-00AJ1	MATCHING BOX	[AV-21D83/VT]	
	8	CM35847-00B-H	ROD ANTENNA	[AV-21D83/VT]	
	9	GG20025-003A-H	CORNER LABEL	(x2) [AV-21D83/BK]	
	10	GG40015-001A-E	SERIAL LABEL	(x2) [AV-21D83/VT]	

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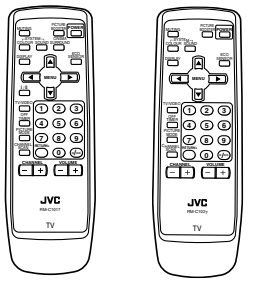
SCHEMATIC DIAGRAMS

COLOUR TELEVISION

BASIC CHASSIS
CH

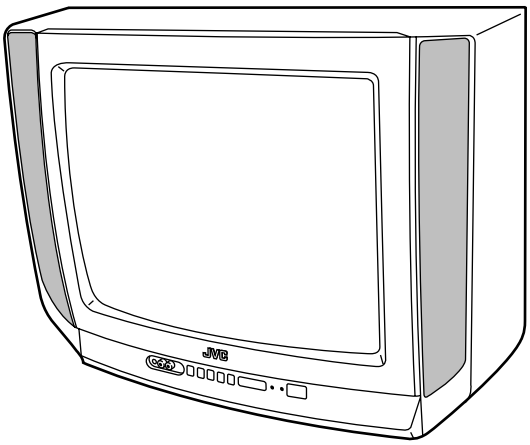
AV-20N83 /BK AV-21D83 /VT
AV-21D83 /BK AV-20N83 /VT

CD-ROM No. SML200212

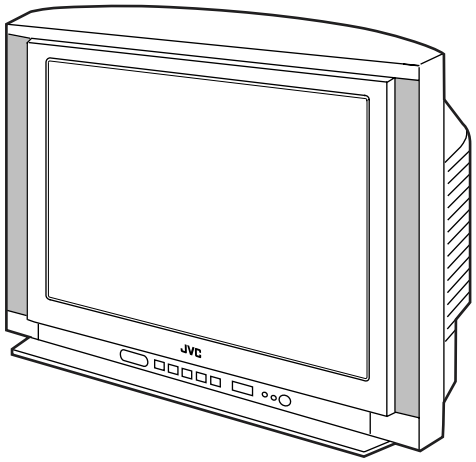


RM-C1017-1H
[AV-20N83/BK]
[AV-21D83/BK]

RM-C1027-1H
[AV-21D83/VT]
[AV-20N83/VT]



[AV-20N83/BK, AV-20N83/VT]



[AV-21D83/BK, AV-21D83/VT]

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No. 52076
Dec. 2002

AV-20N83/BK
AV-21D83/BK
AV-21D83/VT
AV-20N83/VT STANDARD CIRCUIT DIAGRAM

■ NOTE ON USING CIRCUIT DIAGRAMS

1. SAFETY

The components identified by the ⚠ symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

2. SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

(1) Input signal : Colour bar signal
(2) Setting positions of each knob/button and variable resistor : Original setting position when shipped
(3) Internal resistance of tester : DC 20kΩ/V
(4) Oscilloscope sweeping time : H ⇒ 20μS/div
: V ⇒ 5mS/div
: Others ⇒ Sweeping time is specified.
(5) Voltage values : All DC voltage values

∗Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3. INDICATION OF PARTS SYMBOL [EXAMPLE]

• In the PW board : R1209 → R209

4. INDICATIONS ON THE CIRCUIT DIAGRAM

(1) Resistors

• Resistance value

No unit	: [Ω]
k	: [kΩ]
M	: [MΩ]

• Rated allowable power

No indication	: 1/16 [W]
Others	: As specified

• Type

No indication	: Carbon resistor
OMR	: Oxide metal film resistor
MFR	: Metal film resistor
MPR	: Metal plate resistor
UNFR	: Non-Flammable resistor
FR	: Fusible resistor

∗Composition resistor 1/2 [W] is specified as 1/2S or Comp.

(2) Capacitors

• Capacitance value

1 or higher	: [pF]
less than 1	: [μF]

• Withstand voltage

No indication	: DC50[V]
AC indicated	: AC withstand voltage [V]
Others	: DC withstand voltage [V]

∗ Electrolytic Capacitors
47/50[Example] : Capacitance value [μF]/withstand voltage[V]

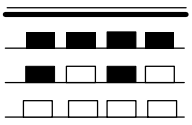
• Type

No indication	: Ceramic capacitor
MY	: Mylar capacitor
MM	: Metalized mylar capacitor
PP	: Polypropylene capacitor
MPP	: Metalized polypropylene capacitor
MF	: Metalized film capacitor
TF	: Thin film capacitor
BP	: Bipolar electrolytic capacitor
TAN	: Tantalum capacitor

(3) Coils

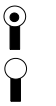
No unit	: [μH]
Others	: As specified

(4) Power Supply

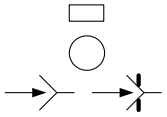


∗Respective voltage values are indicated

(5) Test point



(6) Connecting method



(7) Ground symbol

⊥ : LIVE side ground
⏥ : ISOLATED(NEUTRAL) side ground
⏚ : EARTH ground
▽ : DIGITAL ground

5. NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND and the ISOLATED(NEUTRAL) : (⏥) side GND. Therefore, care must be taken for the following points.

(1) Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.
(2) Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time with a measuring apparatus (oscilloscope, etc.). If the above precaution is not respected , a fuse or any parts will be broken.

• Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

Dec. 2002 No. 52076

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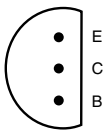
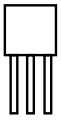
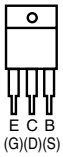
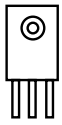
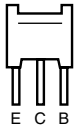
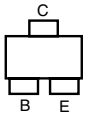
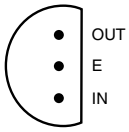
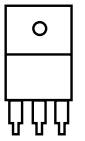
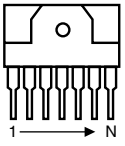
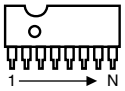
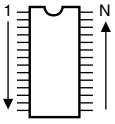
SEMICONDUCTOR SHAPES

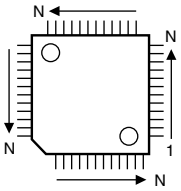
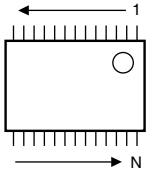
TRANSISTOR

BOTTOM VIEW	FRONT VIEW				TOP VIEW
					CHIP TR 

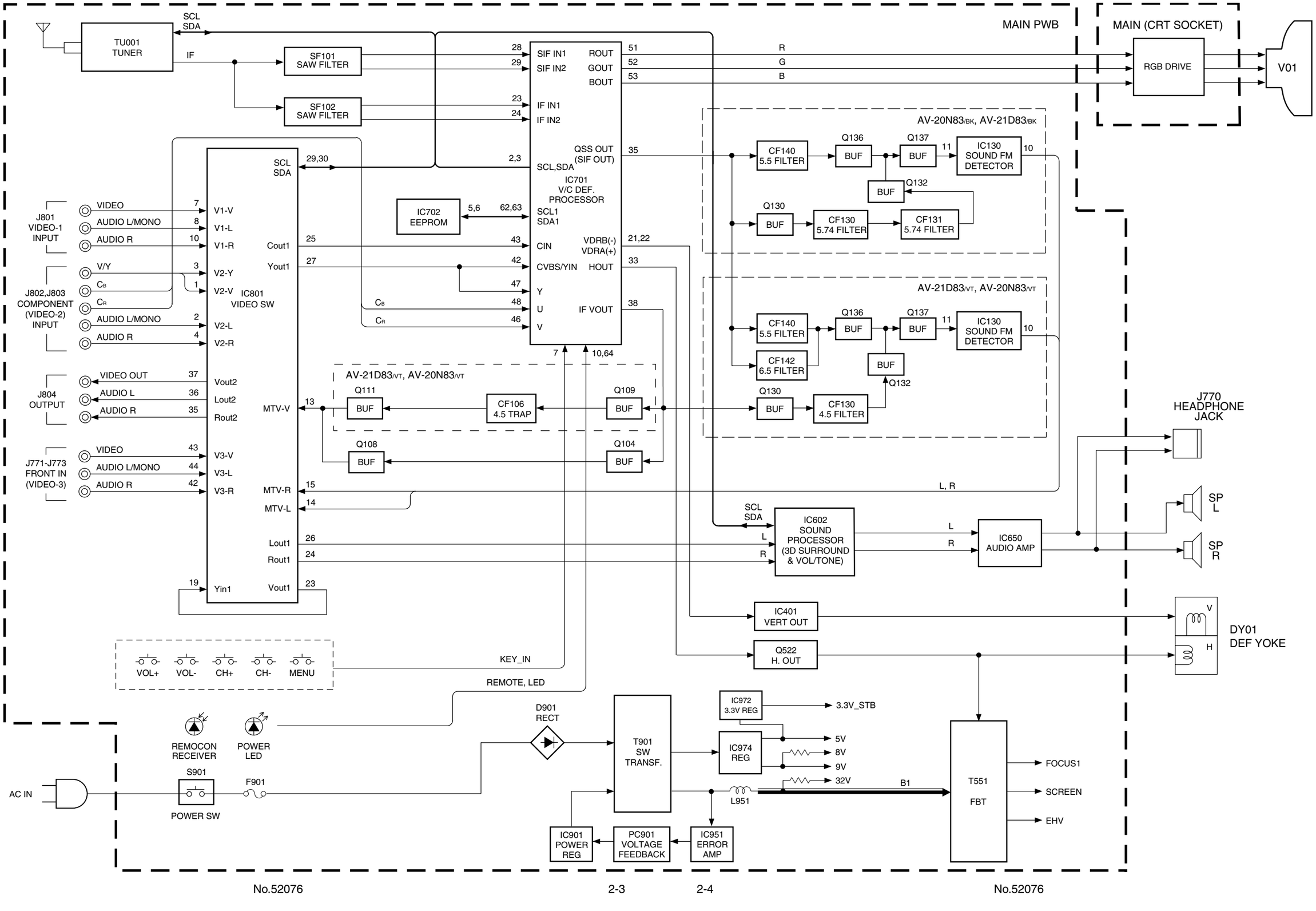
IC

BOTTOM VIEW	FRONT VIEW			TOP VIEW
				

CHIP IC

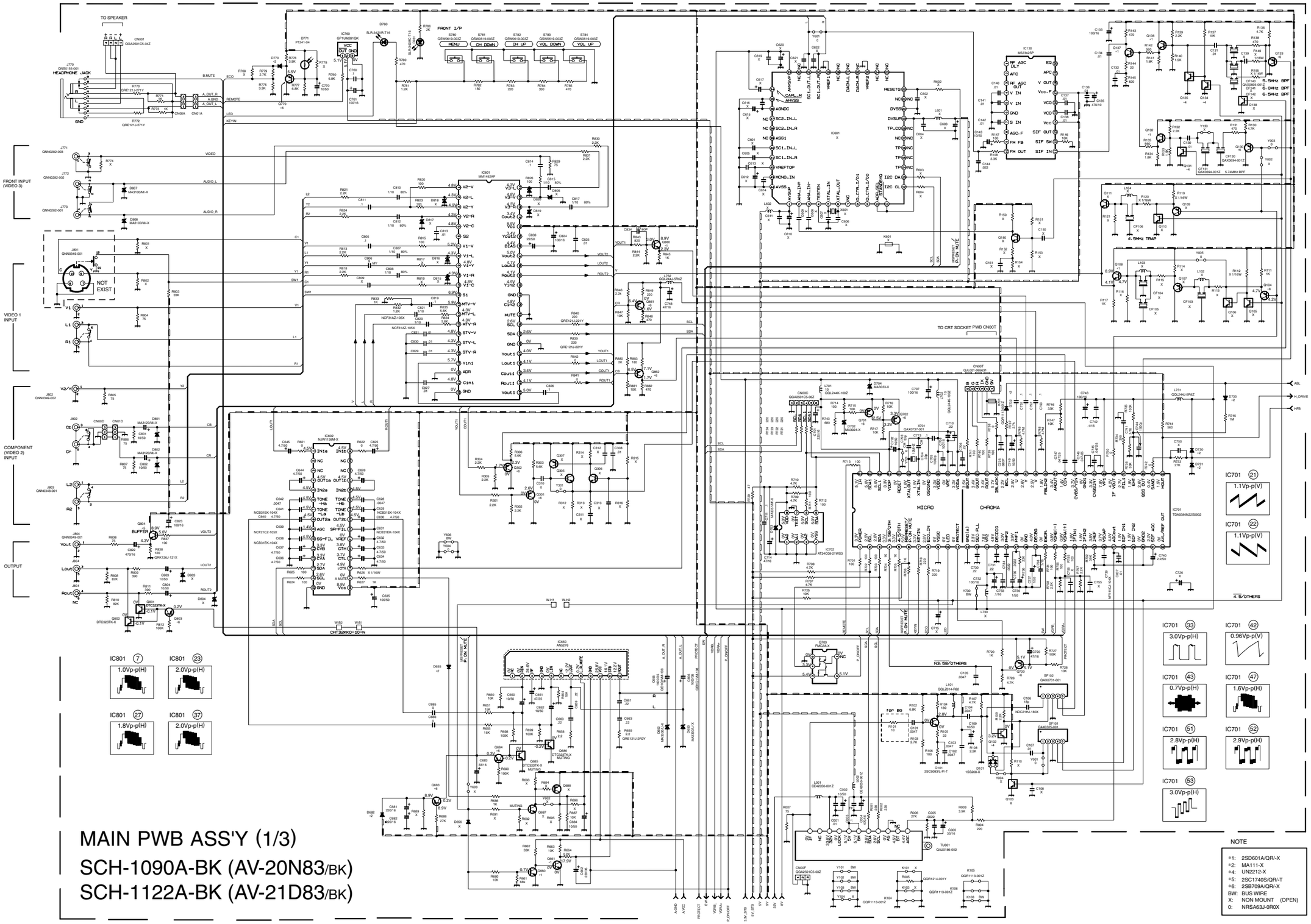
TOP VIEW		
		

BLOCK DIAGRAM



CIRCUIT DIAGRAMS

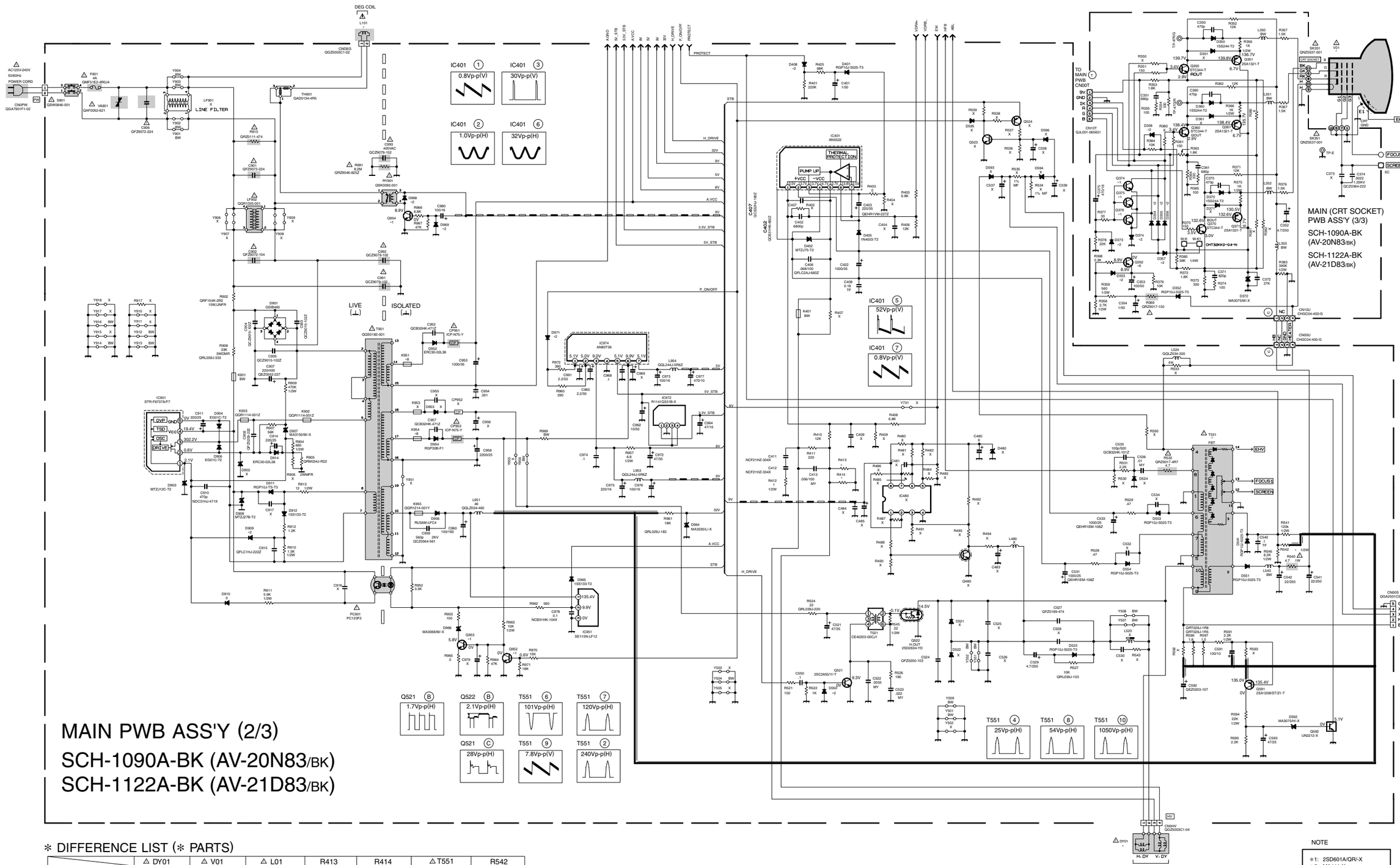
MAIN PWB CIRCUIT DIAGRAM (1/3) [AV-20N83/BK, AV-21D83/BK]



MAIN PWB ASS'Y (1/3)
SCH-1090A-BK (AV-20N83/BK)
SCH-1122A-BK (AV-21D83/BK)

NOTE
*1: 2SD601A/QR/-X
*2: MA111-X
*4: UN2212-X
*5: 2SC1740S/QR/-T
*6: 2SB709A/QR/-X
BW: BUS WIRE
X: NON MOUNT (OPEN)
0: NRSA63J-0R0X

MAIN PWB CIRCUIT DIAGRAMS (2/3, 3/3) [AV-20N83/BK, AV-21D83/BK]



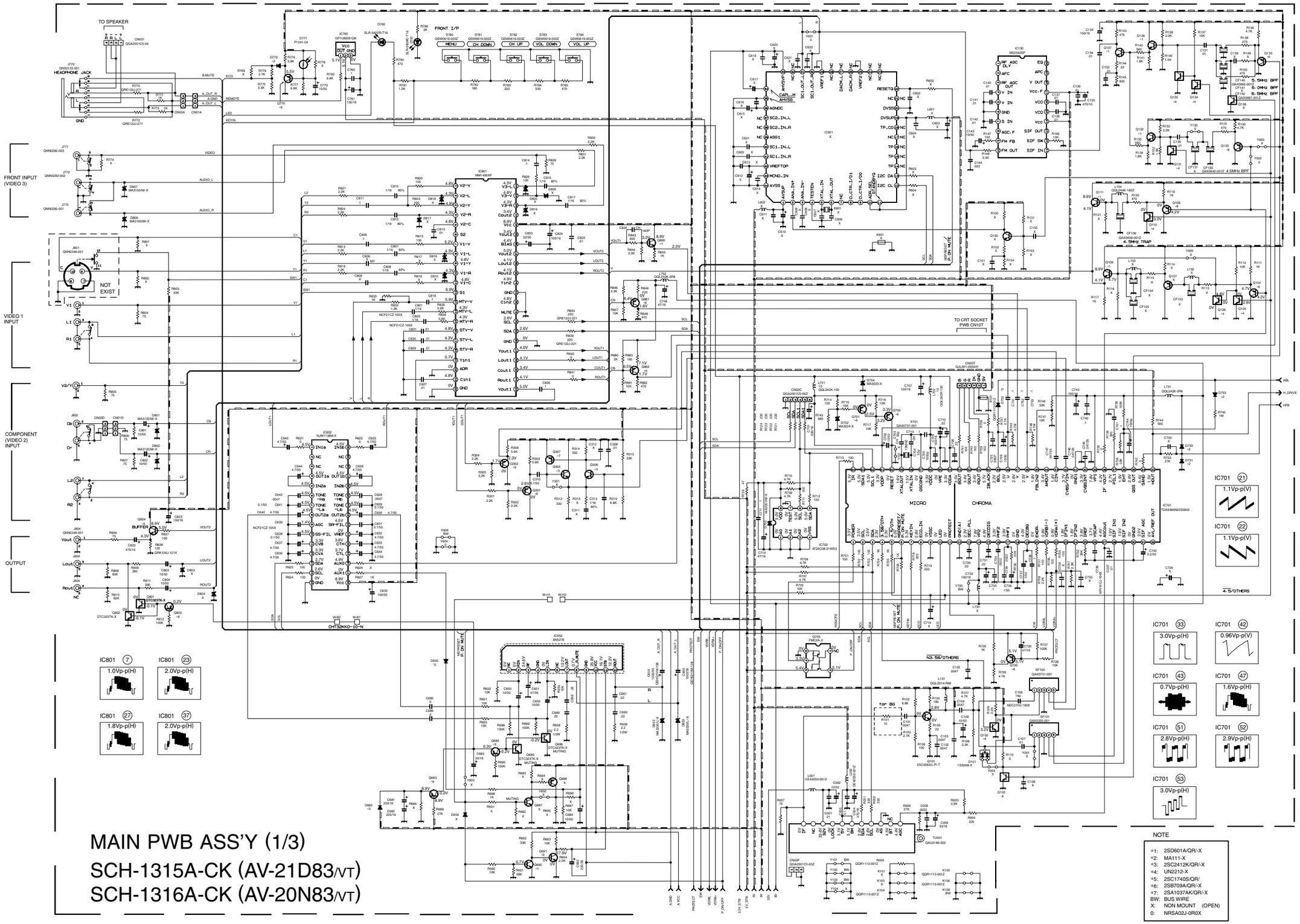
∗ DIFFERENCE LIST (∗ PARTS)

	△ DY01	△ V01	△ L01	R413	R414	△T551	R542
SCH-1090A-BK	QQD0081-001	A48LWX10X	QQW0156-001	3.9Ω	68Ω	QQH0143-001	330KΩ
SCH-1122A-BK	CE20336-00A	A51LMV10X	QQW0157-001	2.7Ω	NOT USED	QQH0142-001	270KΩ

NOTE

∗1: 2SD601A/QR/-X
∗2: MA111-X
∗6: 2SB709A/QR/-X
∗8: QQR1113-001Z
BW: BUS WIRE
X: NON MOUNT (OPEN)
0: NRSA63J-0R0X

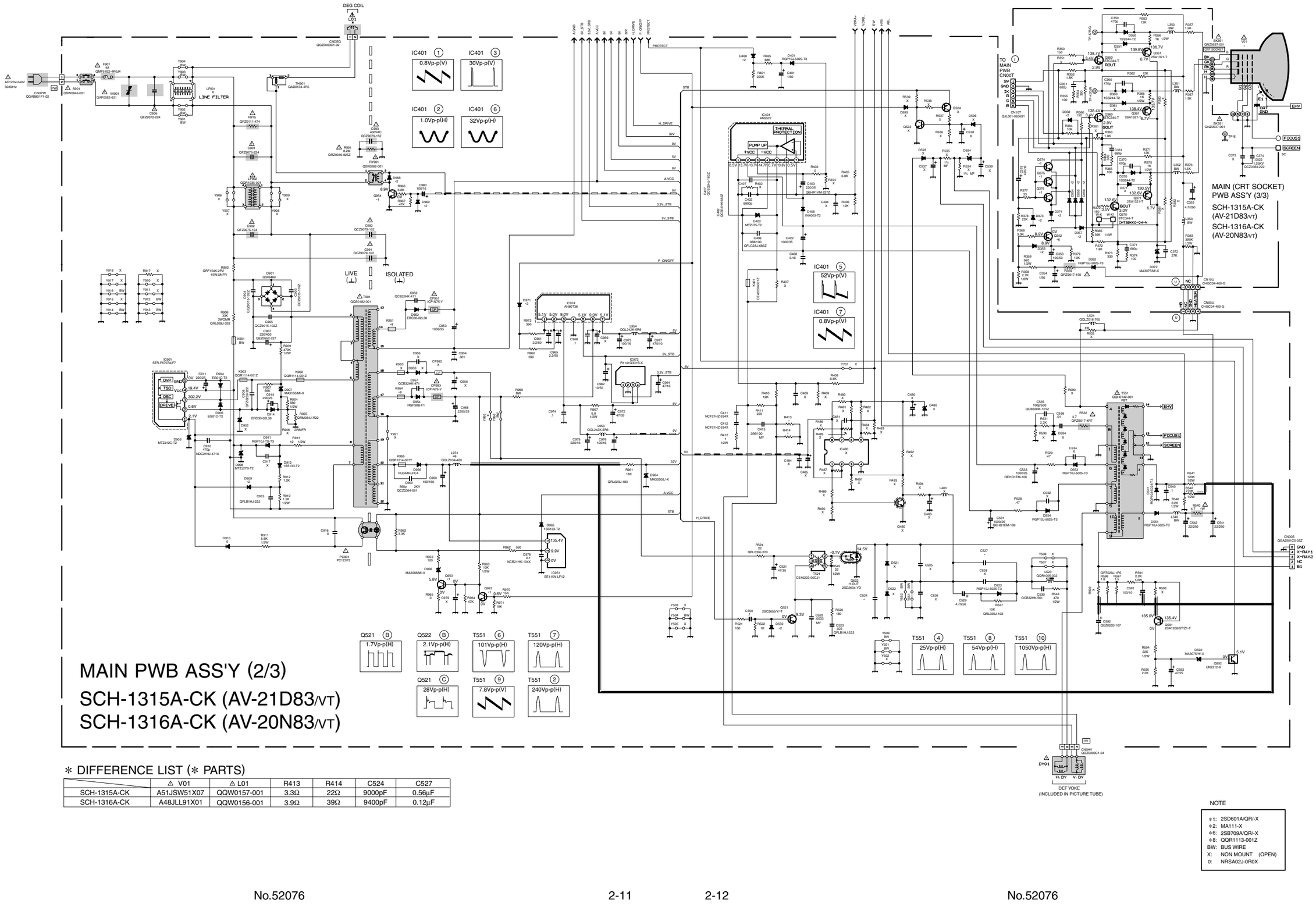
MAIN PWB CIRCUIT DIAGRAM (1/3) [AV-21D83/VT, AV-20N83/VT]



MAIN PWB ASS'Y (1/3)
SCH-1315A-CK (AV-21D83/VT)
SCH-1316A-CK (AV-20N83/VT)

AV-21D83
AV-20N83

MAIN PWB CIRCUIT DIAGRAMS (2/3, 3/3) [AV-21D83/VT, AV-20N83/VT]



✻ DIFFERENCE LIST (✻ PARTS)

	⚠ V01	⚠ L01	R413	R414	C524	C527
SCH-1315A-CK	A51JSW51X07	QQW0157-001	3.3Ω	22Ω	9000pF	0.56μF
SCH-1316A-CK	A48JLL91X01	QQW0156-001	3.9Ω	39Ω	9400pF	0.12μF

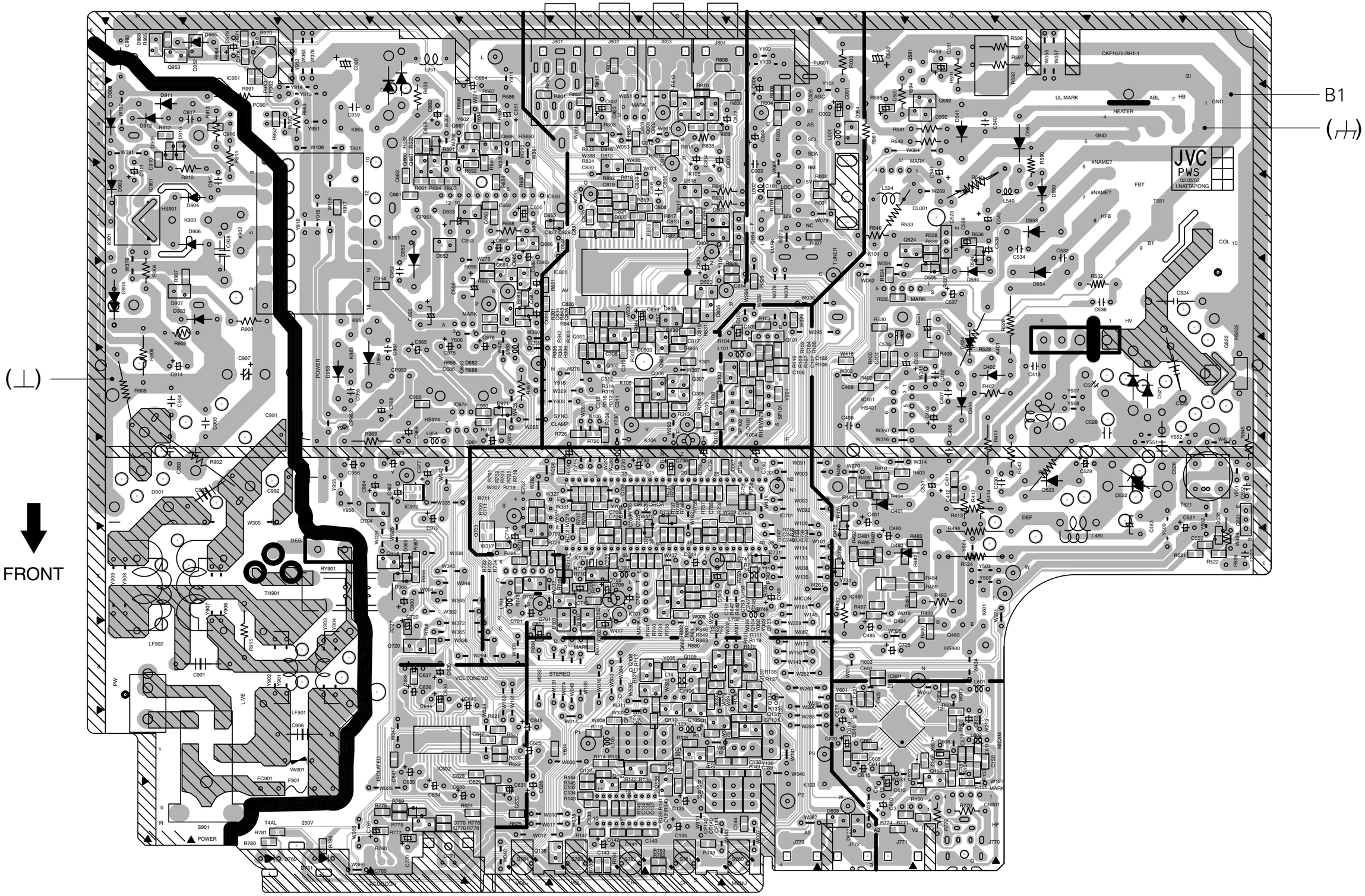
NOTE

✻1: 2SD601A/QR/-X
✻2: MA111-X
✻6: 2SB709A/QR/-X
✻8: QQR1113-001Z
BW: BUS WIRE
X: NON MOUNT (OPEN)
0: NRSA02J-0R0X

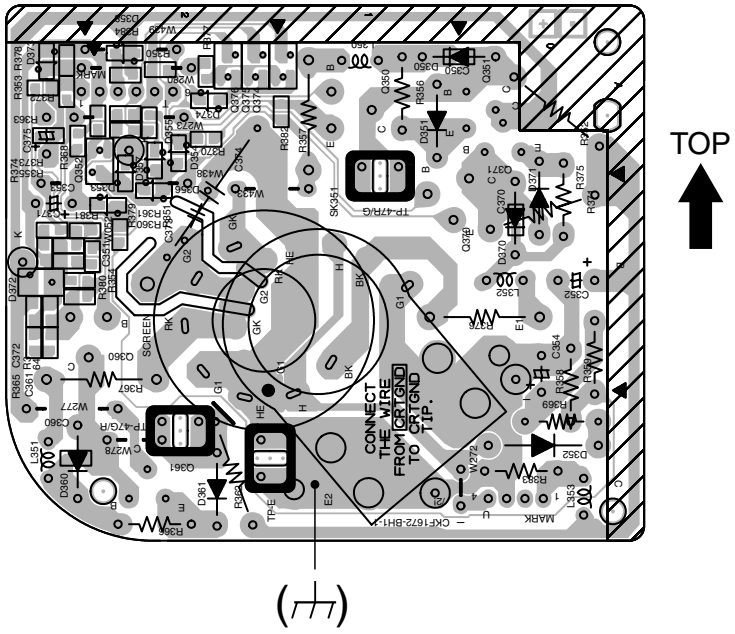
AV-20N83
AV-21D83

PATTERN DIAGRAMS

MAIN PWB PATTERN



MAIN PWB (CRT SOCKET) PATTERN



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AV20N83BK-BK #4
AV21D83BK-BK #4
AV21D83VT-CK #4
AV20N83VT-CK #4
Printed in Japan
0212 WPC